

CRPL-F 199 PART A

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PART A
IONOSPHERIC DATA

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U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

IONOSPHERIC DATA

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SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, and continuing through December 1956, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1957, the symbols used are given in NBS Report 5033, "Summary of Changes in Ionospheric Vertical Soundings, Observing and Scaling Procedures - Effective 1 January 1957," which draws upon the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, Sept. 2, 1956. A list of these symbols is available upon request.

In the Second Report of the Special Committee on World-Wide Ionospheric Soundings of the URSI/AGI Committee, May 1957, a new descriptive letter was introduced:

- M Measurement questionable because the ordinary and extraordinary components are not distinguishable.

There was an expansion in meaning of the following:

- Z (1) (qualifying letter) Measurement deduced from the third magnetoionic component.
- (2) (descriptive letter) Third magnetoionic component present.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given above.

- a. For all ionospheric characteristics:

Values missing because of A, C, F, H, L, N or R are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F (and h'E near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the descriptive symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

B for fEs is counted on the low side when there is a numerical value of a higher layer characteristic; otherwise it is omitted from the median count.

S for fEs is counted on the low side at night; during the day it is omitted from the median count (beginning with data for November 1957).

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with CRPL-F188, Part A, issued April 1960, the count is given for foF2 in the tables of medians. It is regretted that space limitations prevent including detailed counts for other characteristics.

WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 144 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Republica Argentina, Ministerio de Marina:
Buenos Aires, Argentina

Commonwealth of Australia, Ionospheric Prediction Service of the
Commonwealth Observatory:
Brisbane, Australia
Canberra, Australia
Townsville, Australia
Wilkes Station, Antarctica

University of Graz:
Graz, Austria

Belgian Royal Meteorological Institute:
Dourbes, Belgium

Escola Politecnica, University of Sao Paulo:
Sao Paulo, Brazil

British Department of Scientific and Industrial Research, Radio
Research Board:
Falkland Is.
Ibadan, Nigeria (University College of Ibadan)
Inverness, Scotland
Port Lockroy
Singapore, British Malaya
Slough, England

Defence Research Board, Canada:
Churchill, Canada
Ottawa, Canada
Resolute Bay, Canada
St. John's, Newfoundland
Winnipeg, Canada

Radio Wave Research Laboratories, National Taiwan University,
Taipeh, Formosa, China:
Formosa, China

General Direction of Posts and Telegraphs, Helsinki, Finland:
Nurmijarvi, Finland

The Finnish Academy of Sciences and Letters:
Sodankyla, Finland

French National Center for Telecommunications Studies:
Bangui, French Equatorial Africa
Dakar, French West Africa
Kerguelen I.
Poitiers, France
Rabat, Morocco
Tahiti, Society Is.
Tamanrasset, French West Africa
Terre Adelie

Heinrich Hertz Institute, German Academy of Sciences, Berlin:
Juliusruh/Rügen, Germany

Institute for Ionospheric Research, Lindau Über Northeim, Hannover,
Germany:
Lindau/Harz, Germany

Ionospheric Institute, Breisach, Germany:
Freiburg, Germany

The Royal Netherlands Meteorological Institute:
De Bilt, Holland
Hollandia, Netherlands New Guinea

National Institute of Geophysics, City University, Rome, Italy:
Rome, Italy

Ministry of Postal Services, Radio Research Laboratories, Tokyo, Japan:
Akita, Japan
Tokyo (Kokubunji), Japan
Wakkanai, Japan
Yamagawa, Japan

General Directorate of Telecommunications, Mexico:
El Cerillo, Mexico

Telecommunication Administration, Oslo, Norway:
Svalbard, Norway

South African Council for Scientific and Industrial Research:
Capetown, Union of South Africa
Johannesburg, Union of South Africa

Research Institute of National Defence, Stockholm, Sweden:
Kiruna, Sweden
Lycksele, Sweden
Upsala, Sweden

Royal Board of Swedish Telegraphs, Radio Department, Stockholm, Sweden:
Lulea, Sweden

Post, Telephone and Telegraph Administration, Berne, Switzerland:
Sottens, Switzerland

National Bureau of Standards (Central Radio Propagation Laboratory):
Byrd Station, Antarctica
Fairbanks (College), Alaska (Geophysical Institute of the
University of Alaska)
Huancayo, Peru (Instituto Geofisico de Huancayo)

TABULATIONS OF ELECTRON DENSITY DATA

Reduction of hourly ionospheric vertical soundings to electron density profiles has become a part of the systematic ionospheric data program of the Central Radio Propagation Laboratory, National Bureau of Standards. Scalings of ionograms for this purpose are being provided by ionosphere stations operated by several stations associated with CRPL. For the present, the hourly profile data from one CRPL station, Puerto Rico, are appearing in the monthly CRPL-F Reports, Part A. The very considerable task of scaling the ionograms for this purpose is being undertaken by T. R. Gilliland, Engineer in Charge, Puerto Rico Ionosphere Sounding Station; the computations are performed at the NBS Boulder Laboratories by a group headed by J. W. Wright. Basic conversion of virtual to true heights uses the well-known matrix method developed by K. G. Budden of the Cavendish Laboratory, Cambridge University, programmed by Dr. H. H. Howe for a CDC-1604 computer.

The tabulations provide the following basic electron density profile data for each hour of each day of the month:

<u>Quantity</u>	<u>Units</u>	<u>Remarks</u>
Electron Density (N)	$\times 10^3 = \text{electrons/cm}^3$	Body of table; given at each 10 km of height.
NMAX	$\times 10^3 = \text{electrons/cm}^3$	Always the highest value of N at each hour. To maintain this rule, the electron density at the next 10 km increment above HMAX is always given as exactly equal to NMAX (unless HMAX coincides with a 10 km level).
QUALification	(Alphabetic)	A standard scaling letter qualifying the observation when necessary.
KP		The standard Kp magnetic index, to one digit.
HMIN	Kilometers	The height of zero or very low electron density, obtained by linear extrapolation of the electron density vs. height curve.
SCAT	Kilometers	One half of the half-thickness of the parabola best fitting the upper portion of the F region profile. Approximates the scale height near the level HMAX.
HMAX	Kilometers	The height of maximum electron density, determined by fitting a parabola to the upper portion of the profile.
SHMAX	$\times 10^{10} = \text{electrons/cm}^2$ column.	Obtained by integration of the profile between the limits HMIN and HMAX.

Tabulations of the average electron densities each hour, at each 10 km level, for the quiet ionosphere, are also given. These averages include the profiles obtained when the magnetic character figure Kp is 4+ or less. The number of profiles entering the average for each hour is given by CNT. The other parameters of the layer, HMIN, SCAT, HMAX, SHMAX, and the mean value of Kp are given for each hour.

Before the averaging process, the individual profiles are extrapolated above HMAX by a Chapman distribution of 100 km scale height. This assumed model seems to agree well with the few published measurements dealing with the topside profile of the F-region.* Extrapolation is necessary in order to calculate homogeneous averages near HMAX and the average profiles are, in fact, given up to 950 km. Also given are the average estimated integrated electron densities to infinity, SHINF (same units as SHMAX); this is an approximation to the total electron content in a column of the ionosphere.

*See Wright, J. W. "A Model of the F-Region Above HMAX F2" J.Geophys.Res. V.65, pp.185-191.

ELECTRON DENSITY

RAYEY AFB, PUERTO RICO 60 W 1 SEP 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	0	0	1	1	1	1	1	1	1	1	A1	1
HMIN	266	252	239	221	199	201	199	107	109	109		111
SCAT	44.9	61.6	49.5	32.1	38.1	32.4	81.1	53.8	36.8	38.3		66.7
HMAXF	366	383	349	297	281	264	326	238	247	258		310
SHMAX	231	330	258	174	163	85	209	292	420	552		1021
KM												
300		403										
360		403										
370	375	398										
360	374	389										
350	364	373	382									
340	345	355	379									
330	318	328	368									
320	276	296	349				214					
310	227	255	326				211					
300	173	206	288	382			208					
290	112	158	242	379	310		203					
280	65.1	112	191	354	310		196					
270	26.2	68.4	137	315	304	198	189					
260	42.6	80.4	255	287	198	182						
250	49.0	181	260	190	172							
240	7.0	112	221	172	157							
230		60.3	171	146	135							
220			121	107	106							
210			67.2	59.2	69.1							
200			12.4		12.4							
190												
180												
170												
160												
150												
140												
130												
120												
110												

ELECTRON DENSITY

RAYEY AFB, PUERTO RICO 60 W 1 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	1	1	50	0	0	1	A1	1	1	1	A1	A2
HMIN	109	109	109	107	109	108		180	198	188	197	206
SCAT	58.6	53.2	56.9	53.5	46.9	49.9		57.4	63.5	67.8	47.0	45.2
HMAXF	329	317	319	317	306	293		319	344	331	336	352
SHMAX	1310	1405	1472	1409	1318	1184		721	690	530	344	323
KM												
360												
350												
340												
330	1143											
320	1136	1446	1528	1528								
310	1112	1439	1518	1527	1669							
300	1067	1408	1484	1507	1662	1500						
290	1019	1350	1422	1460	1620	1499						
280	944	1262	1340	1384	1540	1474						
270	871	1154	1228	1287	1430	1415						
260	791	1032	1114	1160	1268	1344						
250	712	894	964	1021	1044	1223						
240	638	759	807	866	832	1076						
230	569	634	661	715	648	907						
220	509	523	536	568	496	716						
210	458	447	443	458	405	524						
200	415	397	384	389	348	384						
190	381	363	348	347	309	300						
180	353	340	323	318	279	250						
170	328	322	301	294	248	217						
160	305	305	276	269	218	188						
150	280	284	246	239	187	160						
140	247	257	216	207	158	133						
130	209	226	196	181	142	114						
120	199	206	185	169	133	104						
110	114	155	74.1	142	78.9	84.1						

ELECTRON DENSITY

RAYEY AFB, PUERTO RICO 60 W 2 SEP 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	2	2	2	2	2	2	2	2	3	3	3	A3
HMIN	274	248	218	217	207	229	201	199	109	105	109	
SCAT	39.9	38.4	47.7	49.0	46.2	33.3	36.1	35.4	44.7	45.4	77.5	
HMAXF	370	340	320	342	325	303	277	281	251	272	315	
SHMAX	253	258	282	270	243	178	162	300	543	807	1168	
KM												
370	446											
360	440											
350	420	477		382								
340	385	477		382								
330	337	468		376	362							
320	277	442	446	362	361							
310	213	401	442	339	352	389						
300	143	345	427	310	335	388						
290	82.2	277	402	273	311	374						
280	41.8	196	370	228	276	342						
270		114	324	181	236	293						
260		60.1	263	133	191	225						
250		12.4	193	93.7	145	147						
240			113	66.2	101	74.0						
230			59.2	45.6	70.1	12.4						
220			12.4	12.4	46.5							
210					12.4							
200												
190												
180												
170												
160												
150												
140												
130												
120												
110												

ELECTRON DENSITY

RAYEY AFB, PUERTO RICO 60 W 2 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	3	3	4	4	4	6	6	6	5	5	5	5
HMIN	109	109	107	112	108	109	198	215	237	212	239	239
SCAT	69.6	53.1	58.2	66.5	54.5	51.4	60.0	49.6	44.7	48.3	63.3	45.9
HMAXF	348	334	332	349	324	308	333	332	355	339	387	363
SHMAX	1629	1722	1772	2147	1763	1497	1120	926	810	856	858	645
KM												
390												
380												
370												
360												
350	1341			2032								
340	1337	1786	1741	2022								
330	1320	1783	1741	1989	2000							
320	1288	1756	1723	1934	1997							
310	1243	1696	1680	1853	1967	1876						
300	1180	1599	1605	1750	1903	1866						
290	1110	1476	1513	1634	1814	1821						
280	1024	1327	1394	1475	1684	1735						
270	927	1140	1253	1288	1504	1622						
260	831	964	1103	1069	1288	1473						
250	737	798	942	890	1061	1286						
240	648	659	801	736	836	1100						
230	568	553	667	607	657	831						
220	502	478	558	515	509	593						
210	452	429	482	449	412	424						
200	416	394	429	400	353	321						
190	388	368	388	359	315	262						
180	360	346	355	321	287	224						
170	333	325	324	285	259	195						
160	303	302	296	253	232	169						
150	268	278	268	226	207	145						
140	227	251	237	199	183	128						
130	199	222	208	176	161	121						
120	187	204	189	164	150	116						
110	76.8	114	152		69.4	58.9						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

3 SEP 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	5	5	7	7	7	3	3		F3	F3	3	3
HMIN	239	229	240	220	289	235	279	108	109	108	109	109
SCAT	43.8	57.1	42.2	53.7	35.9	70.8	48.8	54.8	49.3	84.5	67.7	49.6
HMAXF	341	346	356	346	380	392	375	310	285	335	345	312
SHMAX	566	657	480	536	345	579	478	994	922	1371	1558	1556
KM												
400								599				
390								599				
380						670		595	774			
370						657		584	772			
360						617		568	755			
350	960	896	764	716	553	547	723			1341		
340	960	893	750	714	460	519	674		1050	1339		
330	946	878	685	700	355	484	604		1049	1325		
320	906	846	625	672	247	442	509		1042	1296	1786	
310	846	805	548	634	144	392	373	1143	1027	1252	1785	
300	745	750	453	583	69.5	338	228	1134	1005	1187	1758	
290	620	672	349	520	12.4	285	98.7	1106	1191	971	1117	1696
280	480	571	255	446		230	12.4	1060	1188	934	1034	1594
270	316	458	156	358		172		996	1165	893	942	1458
260	169	327	85.3	271		118		909	1114	848	843	1293
250	73.6	182	49.6	191		70.7		806	1042	800	736	1120
240	12.4	81.1	47	115		33.1		696	951	747	638	905
230		12.4		55.7				584	835	691	555	716
220								480	692	632	487	562
210								387	542	566	432	467
200								296	410	494	388	412
190								225	292	417	350	375
180								169	227	349	316	345
170								130	184	292	284	319
160								105	151	245	252	290
150								89.3	124	207	220	260
140								80.7	110	174	190	228
130								75.1	105	156	174	200
120								66.3	99.3	144	163	187
110								30.0	41.8	88.1	64.6	84.9

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

3 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	3	83	3	3	3	2	A2	2	4	4	4	5
HMIN	108	108	108	108	108	107		188	208	199	226	274
SCAT	52.9	60.5	43.7	43.5	60.7	43.7		45.3	50.3	54.5	46.9	52.0
HMAXF	320	332	304	292	318	287		298	330	349	351	395
SHMAX	1738	1906	1540	1216	1442	1023		469	469	462	347	382
KM												
400												524
390												523
380												513
370												490
360												462
350											573	508
340		1907									569	501
330		1906									556	483
320	1876	1887				1528					664	531
310	1860	1842	1938			1521					645	499
300	1810	1769	1933	1555	1493						754	612
290	1717	1675	1880	1555	1445	1446					748	567
280	1600	1555	1791	1526	1379	1438					724	506
270	1458	1398	1643	1457	1294	1394					683	432
260	1291	1218	1448	1354	1177	1311					621	348
250	1075	1024	1235	1204	1019	1196					538	261
240	886	834	1038	1001	834	1036					443	174
230	729	666	819	819	666	839					326	101
220	598	543	630	646	529	629					193	57.1
210	500	461	498	522	425	445					111	12.4
200	435	407	419	429	360	330					60.0	4.1
190	393	372	368	370	316	264					12.4	
180	363	347	333	330	279	224						
170	340	325	307	297	244	192						
160	317	303	283	265	211	162						
150	291	277	258	232	186	138						
140	260	242	228	200	167	121						
130	230	218	199	179	156	110						
120	209	206	185	168	147	103						
110	126	122	96.6	129	119	94.9						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

4 SEP 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	5	5	A7	7	7	6	6	H6	7	7	7	6
HMIN	257	236	248	220	198	257	273	106	109	109	109	106
SCAT	46.6	46.5	57.1	48.8	54.9	43.7	35.2	44.7	61.5	63.6	59.6	132
HMAXF	376	358	380	345	315	347	334	290	272	302	313	415
SHMAX	368	396	421	357	229	167	90	487	523	812	1002	1892
KM												
420												982
410												982
400												979
390												973
380	540		540									965
370	518		516									950
360	524	599	524									931
350	496	595	502	484		286						913
340	457	578	473	483		284	203					894
330	407	547	437	471		275	203					874
320	348	502	389	450	310	258	194					851
310	285	439	333	420	309	235	181					827
300	222	368	269	383	305	203	157	608				800
290	159	291	200	342	294	161	118	608				767
280	102	207	131	297	278	109	59.8	600	540	722	843	726
270	59.6	127	85.2	249	259	62.8		577	540	696	795	678
260	19.0	78.7	52.5	199	233	19.3		537	535	663	736	628
250		50.6	12.4	145	201			485	523	619	670	575
240		17.4		89.8	161			423	503	565	598	524
230				49.9	119			358	476	505	527	477
220					78.2			297	442	450	465	439
210					50.0			244	404	402	416	408
200					12.4			198	363	361	378	384
190								161	321	327	348	364
180								133	281	295	320	345
170								111	241	264	293	323
160								95.7	196	235	265	299
150								85.3	161	208	237	270
140								79.8	143	186	208	239
130								75.1	122	160	184	210
120								67.3	103	142	162	190
110								43.4	49.0	41.8	49.0	163

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

4 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	6	6	H7	7	7	8	A8	8	7	7	7	8
HMIN	106	108	108	109	108	108		228	229	245	256	261
SCAT	129	104	97.6	76.3	93.9	59.3		54.6	54.7	56.1	46.2	67.1
HMAXF	476	389	353	318	378	357		338	373	385	366	421
SHMAX	2313	1909	1496	897	1068	953		644	634	593	609	726
KM												
480	1050											
470	1049											
460	1045											
450	1038											
440	1029											
430	1015											794
420	997											794
410	973											788
400	949											773
390	924	1215										750
380	898	1213										7

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 5 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
04KP	86	G6	G6	G6	G6	5	S5	27	5	R5	5	F5
HMIN		106	111	108	107	109		267	273	277	258	257
SCAT		43.3	44.5	43.6	45.0	135		50.9	60.4	50.3	64.7	63.0
HMAXF		169	182	175	177	333		369	408	380	408	400
SHMAX		141	145	136	128	464		165	263	237	259	252
KM												
410									310		286	286
400									309		284	286
390									303		280	284
380									294	355	272	278
370								240	279	352	260	269
360								238	261	342	245	256
350								231	239	324	227	242
340						274		220	213	301	205	221
330						274		204	185	269	180	197
320						273		184	152	230	151	171
310						272		158	120	183	122	141
300						270		127	89.9	122	93.8	110
290						267		97.1	63.8	65.4	70.3	83.0
280						263		62.6	40.8	19.9	52.5	60.0
270						256		19.6			37.7	43.5
260						247					6.1	12.4
250						238						
240						230						
230						221						
220						215						
210						209						
200						203						
190			262			197						
180			262	251	229	188						
170		272	258	250	228	177						
160		268	247	244	221	160						
150		257	220	229	206	141						
140		241	199	208	186	123						
130		214	177	184	165	109						
120		191	164	167	150	102						
110		150		109	80.9	46.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 6 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
GPKF	A2	2	83	3	3	5	A5	5	3	3	3	3
HMIN		109	109	108				218	204	236	248	236
SCAT		5042	7549	5944	4847	4143		4443	7546	5047	4346	4344
HMAXF		289	342	301	297	287		318	368	397	358	358
SHMAX		1292	1623	1140	957	853		564	782	506	508	471
KM												
400											634	
390											631	
380											616	
370									774	587		
360									772	548	824	735
350			1341						763	497	818	729
340			1341						746	440	790	701
330			1333						726	377	740	658
320			1313						699	317	672	595
310			1282	1191				949	661	255	585	519
300			1239	1191	1038			909	615	197	480	425
290		1555	1181	1181	1033	1119		854	562	148	360	327
280		1542	1119	1154	1007	1111		772	503	111	228	227
270		1497	1039	1109	954	1066		664	436	8200	124	143
260		1419	941	1051	888	996		529	361	5900	618	9140
250		1313	835	963	808	902		375	285	428	124	563
240		1175	727	846	720	780		197	216	124		2249
230		997	635	717	627	650		924	139			
220		803	552	590	536	523		246	7745			
210		613	481	477	461	410		4040				
200		475	426	406	398	332						
190		401	383	360	347	282						
180		359	350	329	307	248						
170		332	321	303	275	217						
160		309	292	279	247	189						
150		280	249	255	220	164						
140		244	198	223	191	143						
130		207	177	185	161	126						
120		188	166	168	145	115						
110		6846	5546	135	1740	7641						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

7 SEP 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	3	3	3	3	3	4	4	4	6	6	A6	3
HMIN	204	198	235	244	241	228	229	109	108	108		107
SCAT	37.1	43.5	48.2	43.3	41.9	42.8	31.5	22.0	38.0	41.1		66.7
HMAXF	297	305	353	350	342	326	293	230	252	263		312
SHMAX	351	297	279	224	202	195	192	303	465	660		1212
KM												
360			403	362								
350			402	362	335							
340			396	356	335							
330			378	341	328	329						
320			356	317	312	327					1072	
310		477	323	283	285	318					1072	
300	679	475	281	239	249	299	469				1064	
290	673	462	234	192	206	273	468				1042	
280	642	435	187	140	162	235	405				1011	
270	587	398	138	92.7	113	189	409				967	
260	505	348	91.0	57.3	70.8	138	341		670	860	910	
250	400	291	57.9	27.3	44.2	86.1	233		669	840	841	
240	278	227	28.2			51.6	108		654	796	758	
230	157	162				12.4	12.4	814	611	724	670	
220	70.6	94.1						773	551	640	589	
210	40.0	54.6						644	483	539	519	
200		12.4						385	419	453	466	
190								208	361	384	426	
180								145	289	330	393	
170								111	212	285	363	
160								86.4	160	247	332	
150								71.9	118	208	299	
140								68.2	102	160	259	
130								64.9	93.5	140	204	
120								61.5	87.9	131	186	
110								38.9	64.5	78.2	99.1	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

7 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	3	3	3	4	4	A4	A4					
HMIN	109	103	106	108	108			202	204	221	54	3
SCAT	72.3	55.2	57.2	68.7	55.7			54.3	58.6	47.7		268
HMAXF	338	319	322	345	330			312	354	350		50.2
SHMAX	1582	1532	1531	1700	1556			884	750	593		395
KM												442
400												625
390												624
380												611
370												586
360										875		551
350				1500						874	854	499
340	1290			1498						862	845	433
330	1286			1555	1482	1626				838	815	360
320	1270	1528	1555	1451	1613			1290	800	769		282
310	1241	1519	1538	1402	1574			1290	751	706		205
300	1194	1485	1497	1352	1501			1274	690	625		134
290	1146	1421	1430	1278	1412			1236	619	534		83.6
280	1081	1340	1336	1169	1298			1175	540	434		50.8
270	1002	1234	1216	1048	1167			1100	461	326		12.4
260	914	1103	1098	920	1011			985	379	217		
250	820	965	942	788	843			828	293	130		
240	724	831	788	669	686			644	210	79.2		
230	638	700	652	566	560			417	136	46.1		
220	564	591	539	484	464			200	84.0			
210	503	511	465	426	400			69.2	46.7			
200	457	453	413	382	355							
190	419	411	378	348	320							
180	387	380	351	320	289							
170	358	353	325	294	262							
160	329	327	292	265	236							
150	300	298	245	230	206							
140	268	263	211	198	177							
130	234	225	195	178	158							
120	205	207	186	167	149							
110	58.9	176	144	90.5	84.8							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

8 SEP 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	3	3	5	5	5	A3	3	53	A3	A3	R3	R4
HMIN	281	239	225	230	207	229	269					
SCAT	46.4	46.3	43.8	38.7	59.9	37.8	37.4					
HMAXF	401	343	330	322	322	308	338					
SHMAX	451	473	372	318	390	180	186					
KM												
410	679											
400	679											
390	669											
380	643											
370	602											
360	543											
350	472	784										
340	356	783					389					
330	304	769	608	608	500		385					
320	203	737	600	607	500		367					
310	121	691	577	594	495	355	337					
300	72.1	611	538	559	483	351	289					
290	44.7	498	483	507	465	334	223					
280		371	414	424	444	307	133					
270		248	337	328	408	265	12.4					
260		124	242	205	362	210						
250		59.1	144	106	311	139						
240		4.5	77.1	53.0	254	68.3						
230			34.0		189	12.4						
220					109							
210					40.7							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

8 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	A4	A4	A3	3	3	1	A1	1	4	4	4	4
HMIN				109	110	109		200	217	228	248	228
SCAT				66.5	52.0	52.0		48.5	51.7	51.6	50.5	40.6
HMAXF				351	324	308		312	365	361	370	337
SHMAX				1987	1643	1463		720	662	647	582	477
KM												
370										814	875	834
360										812	875	826
350				1741						796	865	802
340				1729						761	839	762
330				1697	1815					715	797	706
320				1643	1813			1050	660	738	628	757
310				1577	1779	1786		1049	599	663	538	703
300				1486	1699	1774		1033	529	572	434	626
290				1373	1601	1731		992	457	473	323	535
280				1243	1480	1652		931	384	370	207	436
270				1121	1332	1551		849	309	274	121	330
260				984	1173	1405		743	234	185	62.3	216
250				857	1000	1225		630	160	109	12.4	120
240				740	820	1038		508	105	59.2		64.4
230				640	654	802		376	65.5	12.4		12.4
220				560	528	594		236	19.9			
210				498	439	443		116				
200				446	379	349		12.4				
190				400	338	287						
180				355	305	245						
170				312	272	212						
160				270	239	183						
150				234	205	154						
140				206	173	132						
130				191	156	122						
120				179	146	114						
110				52.8	12.4	46.8						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 9 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₄ KP	A2	A2		3	3	A3		A3	2	2	2	52
HMIN			108	109	109	109	A3	199	216	251	254	271
SCAT			63.9	60.7	58.2	51.8		50.0	63.5	56.1	43.1	47.0
HMAX			345	341	337	318		309	351	389	375	382
SHMAX			2088	2066	1949	1623		848	781	674	491	524
KM												
390										834		794
380										828	754	793
370										810	752	782
360									917	775	733	751
350			1891	2032					917	730	689	703
340			1889	2031	1984				910	674	631	639
330			1866	2014	1977				892	609	556	560
320			1821	1970	1934	1984			860	533	476	465
310			1747	1896	1874	1973		1240	819	448	382	364
300			1657	1796	1789	1926		1229	768	356	287	248
290			1542	1670	1663	1831		1194	706	269	198	136
280			1410	1515	1512	1710		1133	628	184	121	61.1
270			1275	1349	1343	1562		1047	540	114	70.6	
260			1151	1141	1161	1381		942	440	63.5	37.7	
250			1005	953	968	1136		812	335			
240			852	786	800	905		663	216			
230			715	652	645	671		489	114			
220			604	556	535	493		296	43.9			
210			520	486	457	382		129				
200			461	433	406	313		12.4				
190			417	390	368	268						
180			386	350	332	233						
170			355	314	292	201						
160			315	279	254	167						
150			261	232	223	138						
140			217	193	193	119						
130			196	175	167	109						
120			185	167	153	103						
110			88.1	78.9	105	89.0						

ELECTRON DENSITY

RAMEY AFR, PUERTO RICO 60 W 10 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QJXP				7	3		3					3
HMIN	109	109	108	109	107	109		206	208	258	261	261
SCAT	66.67	61.47	53.1	48.7	60.4	58.1		55.2	68.4	51.3	57.2	51.0
HMAXF	334	346	348	336	342	327		316	374	398	405	388
SHMAX	2095	2185	2036	1852	1979	1764		941	838	573	636	624
KM												
410											794	
400										754	792	
390										749	781	875
380									834	730	757	869
370									813	695	720	847
360									825	647	672	806
350									808	588	613	753
340	1891	2032	1922		1907				780	518	536	678
330	2027	2012	1922		1906				744	442	449	590
320	1890	1998	1845	1916	1887	1907						
310	1871	1943	1764	1849	1841	1899		1290	702	361	364	489
300	1830	1853	1659	1759	1765	1864		1287	652	276	277	371
290	1764	1742	1537	1644	1658	1800		1264	596	195	192	253
280	1675	1610	1404	1510	1536	1701		1215	535	126	124	150
270	1570	1462	1263	1361	1403	1583		1152	470	81.6	76.0	86.5
260	1455	1290	1127	1200	1259	1441		1068	403	51.6	45.6	48.2
250	1320	1106	983	1038	1116	1283		960	341	12.4		
240	1167	943	854	889	959	1094		833	281			
230	1018	791	740	758	812	928		684	219			
220	869	666	645	645	680	749		499	155			
210	740	577	568	560	579	586		281	81.6			
200	634	516	510	494	479	453		82.3	21.2			
190	553	473	467	440	409	355						
180	489	440	429	398	353	287						
170	438	411	393	362	309	240						
160	391	383	363	331	276	202						
150	349	347	332	301	247	172						
140	311	303	293	270	222	143						
130	275	258	249	239	194	123						
120	235	224	216	206	169	110						
110	209	206	188	180	152	103						
100	92.8	92.8	102	44.7	117	87.7						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

11 SEP 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	3	3	3	3	3	1	1	A1	2	2	2	A3
HMIN	243	248	208	188	208	226	208		109	110	109	
SCAT	53.3	47.3	46.4	43.0	51.7	59.8	51.2		53.5	50.8	92.3	
HMAXF	365	364	317	295	332	374	316		275	290	345	
SHMAX	501	448	421	318	243	266	263		846	1188	1923	
KM												
380						310						
370	698	670				310						
360	696	669				306						
350	684	655				298				1446		
340	655	624			329	285				1445		
330	618	581			329	268				1437		
320	575	525	661		325	247	389			1420		
310	510	454	657		314	222	388			1395		
300	429	376	638	524	256	193	380		1420	1361		
290	343	295	604	522	274	161	364			1420	1316	
280	247	191	557	507	246	129	341	1004	1406	1266		
270	154	107	493	471	214	97.8	312	1002	1364	1209		
260	83.2	57.9	413	435	178	74.9	272	984	1291	1145		
250	43.3	12.4	319	377	140	56.1	221	947	1199	1058		
240			714	308	98.0	41.7	157	895	1069	958		
230			120	229	66.5	12.4	95.8	823	899	843		
220			63.2	147	44.9		55.1	734	732	723		
210			12.4	89.0	8.2		12.4	437	599	606		
200				52.8				533	502	518		
190				12.4				432	425	461		
180								345	358	416		
170								275	302	372		
160								215	254	327		
150								174	212	281		
140								141	177	238		
130								123	157	202		
120								115	147	184		
110								86.5	12.4	52.8		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

11 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	3	3	3	3	3	3	3	3	3	3	3	3
HMIN	107	107	108	107	108	109	221	188	188	226	253	268
SCAT	64.2	56.0	66.4	62.6	62.8	51.6	58.7	58.6	60.1	63.4	55.3	50.0
HMAXF	333	337	340	337	335	314	333	315	247	395	402	386
SHMAX	2175	2179	2115	1901	1748	1428	1102	843	637	603	502	450
KM												
410											625	
400											643	625
390											642	617
380											634	598
370											619	575
360											593	536
350											560	483
340	2032	2096	1907	1756	1669		1528			716	522	424
330	2030	2088	1896	1751	1666		1527			714	522	424
320	2010	2049	1864	1724	1645	1669	1508	1096		681	430	294
310	1964	1967	1810	1675	1603	1666	1468	1094	648	378	226	250
300	1892	1862	1729	1595	1538	1637	1407	1078	607	322	164	159
290	1794	1726	1634	1500	1455	1577	1343	1047	558	266	118	94.5
280	1678	1575	1516	1388	1349	1479	1223	1000	503	210	80.2	54.8
270	1536	1414	1377	1260	1226	1358	1072	935	444	154	55.0	12.4
260	1370	1249	1223	1142	1104	1212	855	853	383	107	30.5	
250	1197	1085	1053	1001	952	1043	552	745	319	73.1		
240	1025	922	911	860	805	843	256	620	253	48.5		
230	857	785	775	731	672	676	81.2	482	183	16.8		
220	711	673	662	623	564	542		323	119			
210	605	588	578	535	482	434		185	78.3			
200	529	526	512	473	420	357		84.4	49.5			
190	471	480	459	424	369	304		21.7	12.4			
180	428	442	413	382	327	262						
170	393	407	370	342	288	225						
160	364	369	332	301	251	192						
150	333	326	301	256	216	163						
140	297	285	262	217	185	141						
130	261	253	223	197	163	126						
120	232	229	206	187	152	117						
110	141	176	109	148	109	65.5						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

12 SEP 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	3	A3	3	3	3	3	3	3	A2	A2	A2	3
HMIN	221	223	239	201	208	278	232	109			108	108
SCAT	40.4	47.2	44.8	55.2	66.0	60.0	47.8	34.3		54.4	70.4	
HMAXF	327	342	348	312	363	409	367	262		297	340	
SHMAX	375	422	347	340	341	272	235	494		1403	1982	
KM												
410						329						
400						327						
390						320						
380						309						
370						375	293	323				
360						375	273	321				
350		643	540			372	249	312				
340		643	535			364	219	295			1669	
330	643	632	517			351	185	273			1660	
320	638	608	485	484	337	148	244				1634	
310	614	573	440	484	316	111	211				1592	
300	570	516	383	478	290	77.7	173		1500	1531		
290	507	443	322	462	259	50.0	136		1494	1459		
280	428	358	256	444	223	12.4	105		1463	1363		
270	340	265	183	413	182		80.6	928	1399	1254		
260	239	172	97.8	374	142		61.2	927	1320	1155		
250	145	103	53.5	322	104		46.5	899	1217	1035		
240	83.1	64.1	5.8		251	75.5	24.8	840	1095	915		
230	46.8	37.9			158	55.0		711	970	803		
220					90.3	38.8		507	841	704		
210					48.2	5.8		335	721	621		
200								232	612	552		
190								171	515	402		
180								132	435	440		
170								103	371	390		
160								83.7	318	343		
150								74.1	269	297		
140								69.0	224	244		
130								65.6	189	197		
120								62.1	171	186		
110								12.4	139	146		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

12 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	A3	A3	A1	A1	A1	A1	S1	1	4	4	4	S5
HMIN				109				200	188	218	240	239
SCAT				57.2				60.5	56.9	54.8	42.3	43.5
HMAXF				337				340	362	353	349	350
SHMAX				2055				1130	1024	800	483	458
KM												
370									1131			
360									1131	1050		
350									1119	1049	794	754
340									1420	1087	1035	784
330				2032					1411	1039	1004	751
320				1986					1382	976	953	694
310				1917					1334	903	888	621
300				1808					1268	818	810	528
290				1678					1184	733	715	426
280				1525					1073	646	603	312
270				1354					928	558	472	199
260				1181					762	465	323	109
250				1009					571	371	194	54.8
240				851					367	276	113	6.6
230				721					197	197	59.6	
220				618					102	130	12.4	
210				542					52.6	81.4		
200				484						50.8		
190				433						12.4		
180				386								
170				340								
160				299								
150				261								
140				230								
130				203								
120				185								
110				58.9								

ELECTRON DENSITY

RAMFJ AFB, PUERTO RICO

60 W

13 SEP 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	J5	5	4	4	4	4	4	A4	A2	S2	2	1
HMIN	268	257	233	192	211	190	199				108	108
SCAT	67.9	49.2	42.9	54.6	56.7	72.0	66.3				50.9	58.1
HMAXF	433	380	331	324	358	336	340				307	326
SHMAX	791	541	472	494	399	354	364				1796	2182
KM												
440	834											
430	833											
420	826											
410	810											
400	783											
390	748											
380	705	794										
370	654	786										
360	497	762			492							
350	530	720			490		389					
340	449	663	834		480	375	389					
330	365	593	834	634	462	374	386				2161	
320	286	502	821	633	439	370	380				2156	
310	205	391	784	624	406	363	368				2032	2122
300	129	275	726	604	364	350	352				2022	2056
290	81.8	174	646	576	314	337	335				1974	1947
280	50.8	101	575	534	263	319	309				1884	1814
270	12.4	59.2	372	481	210	296	279				1755	1666
260		18.7	211	470	155	269	247				1594	1498
250			102	354	111	235	215				1405	1321
240			50.0	292	80.1	198	182				1212	1123
230				227	55.5	157	150				1020	961
220				155	35.6	110	119				824	821
210				86.0		70.5	84.2				668	702
200				45.4		45.3	12.4				547	606
190						2.2					466	527
180											408	461
170											364	408
160											328	361
150											291	315
140											255	272
130											218	236
120											193	212
110											152	109

ELECTRON DENSITY

RAMFJ AFB, PUERTO RICO

60 W

13 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	1	1	3	3	3	4	A4	4	5	5	5	4
HMIN	105	104	106	108	110	108		193	218	219	236	251
SCAT	64.6	72.6	66.2	68.8	70.7	60.2		66.7	60.7	57.0	48.1	50.5
HMAXF	343	356	351	359	356	326		356	382	370	368	374
SHMAX	2391	2591	2411	2330	2255	1687		1054	914	854	645	666
KM												
390											1038	
380											1038	1050
370											1028	1050
360			2128	2112	2000	2000		1096	1005	1041	911	943
350		2128	2124	2112	1991	1997		1094	963	1017	886	906
340		2127	2101	2097	1961	1975		1081	912	974	839	854
330		2105	2059	2059	1909	1933	1786		1055	848	919	775
320		2058	1990	1992	1835	1867	1781		1016	770	846	696
310		1977	1912	1917	1748	1793	1753		967	691	760	603
300		1879	1806	1801	1629	1691	1700		906	588	661	501
290		1762	1684	1664	1493	1566	1616		838	492	554	384
280		1617	1549	1508	1344	1414	1514		758	384	439	265
270		1455	1405	1335	1189	1241	1392		669	280	323	167
260		1283	1256	1156	1043	1084	1254		581	200	215	101
250		1127	1092	1001	901	917	1078		491	132	129	61.3
240		979	952	865	770	771	910		401	83.5	79.2	24.6
230		850	828	751	658	651	748		309	51.7	50.5	
220		740	717	661	571	551	596		216	12.4	6.8	
210		649	626	592	505	476	464		132			
200		578	555	539	455	420	365		58.6			
190		520	500	494	415	371	297					
180		469	455	450	381	328	247					
170		421	415	405	347	289	207					
160		376	376	358	307	253	174					
150		334	336	315	266	220	146					
140		294	291	279	228	189	125					
130		255	242	247	200	163	110					
120		230	214	216	181	151	103					
110		201	194	176	133	40.2	85.6					

ELECTRON DENSITY

RAMFJ AFB, PUERTO RICO

60 W

14 SEP 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	4	4	2	2	2	2	2	S2	A1	A1	A1	1
HMIN	228	219	228	238	261	219	198				109	
SCAT	55.6	41.6	54.3	55.6	47.9	45.1	43.4				77.5	
HMAXF	352	312	351	363	374	308	315				343	
SHMAX	716	500	495	420	379	312	330				2555	
KM												
380					565							
370					564							
360	1004		670	540	553							
350	1004		670	532	528						2144	
340	993		663	516	494						2143	
330	965		645	490	446						2129	
320	927	906	616	456	384		508				2097	
310	866	906	576	417	316	540	506				2047	
300	772	888	520	370	247	536	492				1978	
290	654	844	454	317	166	519	463				1904	
280	516	773	376	259	98.5	488	422				1796	
270	360	670	292	193	49.0	446	370				1669	
260	225	536	199	125		388	314				1528	
250	119	374	119	65.3		307	253				1372	
240	60.5	202	62.7	12.4		189	188				1211	
230	12.4	90.2	12.4			82.9	128				1045	
220		12.4				79.9					897	
210						50.4					760	
200						12.4					635	
190											531	
180											447	
170											382	
160											334	
150											299	
140											267	
130											228	
120											207	
110											78.9	

ELECTRON DENSITY

RAMFJ AFB, PUERTO RICO

60 W

14 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	1	B1	B0	0	A0	0	A0	0	A0	0	0	2
HMIN	108			107	106			198	230	203	241	247
SCAT	70.3			69.3	75.9			57.0	65.3	59.2	55.7	44.7
HMAXF	353			354	348			346	362	368	376	354
SHMAX	2527			2237	1946			1010	913	830	722	565
KM												
380											949	
370											1084	960
360	2161			1891							1084	956
350	2160			1889		1669		1240	1074	937	898	916
340	2142			1871		1664		1236	1052	903	853	896
330	2103			1833		1644		1214	1016	856	787	853
320	2042			1772		1611		1173	972	800	698	789
310	1953			1688		1563		1115	909	729	596	696
300	1850			1590		1497		1036	830	648	490	587
290	1725			1479		1425		936	731	559	372	458
280	1580			1352		1334		823	622	466	257	315
270	1425			1217		1226		704	498	373	158	168
260	1264			1086		1114		576	353	275	86.8	78.9
250	1090			945		983		434	186	187	47.1	30.0
240	944			825		849		300	74.3	124		
230	815			732		719		186	2.6	83.7		
220	711			622		622				56.0		
210	622			558		498		60.2		31.0		
200	546			495		413		12.4				
190	480			441		346						
180	429			393		292						
170	387			352		247						
160	348			315		209						
150	306			277		177						
140	264			234		153						
130	229			206		133						
120	208			189		121						
110	109			158		112						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

15 SEP 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	2	2	1	1	1	1	1	1	1	1	1	1
HMIN	231	254	228	191	196	235	219	51	105	105	107	106
SCAT	52.0	46.0	38.7	54.5	65.9	50.2	37.1	41.1	82.0	65.4	64.6	
HMAXF	349	369	331	335	361	359	308	249	314	319	333	
SHMAX	575	482	419	464	504	359	339	701	1485	1704	2058	
KM												
370		754			540							
360		748			540	500						
350	834	723			537	496						
340	827	682	754	573	527	481						
330	805	621	754	572	511	456						
320	767	538	740	563	489	422						
310	716	437	698	544	462	378	661		1316	1626	1886	
300	645	329	636	513	426	328	653		1305	1590	1779	
290	547	218	547	475	384	272	621		1286	1542	1690	
280	438	134	444	428	337	213	567		1257	1477	1579	
270	311	74.1	324	371	287	146	482		1219	1395	1448	
260	186	38.8	197	325	234	96.4	379		1178	1291	1301	
250	96.3		102	269	184	58.0	251	1050	1131	1152	1122	
240	50.3		56.3	211	133	27.7	141	1037	1042	1003	973	
230			12.4	156	94.0		68.4	991	927	858	842	
220				105	66.6		12.4	918	790	726	729	
210				65.5	46.1			813	651	621	634	
200				43.1	16.3			688	536	536	550	
190								551	447	470	479	
180								411	381	416	418	
170								294	329	370	365	
160								222	280	324	313	
150								177	230	276	261	
140								145	183	225	231	
130								126	159	185	214	
120								118	152	169	203	
110								103	144	131	166	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

15 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	81	51	51	1	1	1	1	1	1	1	1	0
HMIN		109	105	108	108	199	188	199	228	247	271	
SCAT		63.0	64.7	70.7	73.9	71.2	50.8	68.0	56.1	48.6	46.2	
HMAXF		335	346	342	349	349	327	373	370	373	373	
SHMAX		1950	1992	1917	1874	1300	880	1002	798	642	618	
KM												
380									1038		917	1004
370									1037	1004	916	1004
360									1028	997	900	986
350									1007	973	862	943
340									972	931	808	879
330				1786	1782	1668	1633	1401	928	876	734	788
320				1783	1759	1657	1612	1382	1143	877	806	645
310				1760	1714	1629	1576	1348	1137	877	806	645
300				1714	1645	1585	1520	1297	1109	816	724	545
290				1641	1560	1518	1459	1243	1056	748	629	432
280				1546	1450	1441	1375	1168	985	664	523	313
270				1437	1321	1348	1277	1074	901	573	400	204
260				1310	1185	1240	1179	952	803	483	284	124
250				1160	1039	1118	1066	811	695	378	175	63.9
240				1011	892	984	929	660	585	265	101	19.6
230				869	766	850	794	506	470	172	57.4	
220				750	654	732	665	329	346	111	12.4	
210				652	567	629	558	181	229	70.3		
200				576	501	542	463	81.0	125	45.0		
190				520	451	475	380	12.4	61.6	2.5		
180				475	414	421	309					
170				436	383	373	254					
160				394	347	329	214					
150				349	305	285	182					
140				307	260	244	155					
130				267	225	211	136					
120				228	202	187	124					
110				207	189	170	116					
				65.5	172	130	69.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

16 SEP 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	0	0	0	0	0	1	1	51	51	51	51	51
HMIN	239	223	205	189	207	225	255	108	103	105	103	
SCAT	40.6	39.3	39.7	72.1	68.0	57.5	53.5	30.8	51.2	61.4	71.1	
HMAXF	333	319	297	326	351	364	361	242	274	288	331	
SHMAX	526	435	387	450	362	290	269	483	1013	1279	2008	
KM												
370						355	382					
360						403	355	382				
350						403	350	378				
340	960					400	340	367				
330	959			500	393	323	348				1786	
320	937	794		499	382	303	375				1775	
310	885	782		494	369	277	294				1747	
300	804	744	745	484	351	245	252				1702	
290	687	682	739	468	324	208	202				1636	
280	533	596	711	450	289	171	150			1328	1335	
270	371	481	663	426	249	134	91.1			1326	1311	
260	207	352	581	396	206	101	42.4			1302	1269	
250	84.3	221	455	357	163	71.6		917	1253	1208	1202	
240	12.4	101	318	303	114	49.6		916	1179	1141	1053	
230		48.5	164	243	75.5	20.7		880	1081	1036	907	
220			79.5	177	48.2			796	935	917	773	
210			34.0	105	12.4			665	747	789	656	
200								492	549	655	561	
190								337	405	540	487	
180								232	313	450	428	
170								173	251	376	377	
160								138	207	314	329	
150								116	166	267	282	
140								101	136	224	228	
130								91.1	124	193	189	
120								82.3	117	161	173	
110								64.4	105	146	163	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

16 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	51	1	81	1	1	1	1	1	1	1	1	2
HMIN		109		107		105	217	188	218	219	238	240
SCAT	58.1		68.2		55.8	60.4	45.9	58.2	49.5	48.9	42.9	
HMAXF	333		364		323	339	331	376	378	378	353	
SHMAX	1864		2273		1618	1232	861	878	766	725	658	
KM												
380									1050	1004	1027	
370					1907				1047	998	1020	
360					1905				1030	972	989	1096
350					1881				996	923	938	1094
340			1741		1850		1555	1143	948	856	873	1069
330			1740		1792		1801	1547	1143	886	775	780
320			1718		1706		1799	1518	1126	808	681	668
310			1670		1608		1765	1468	1079	717	582	542
300			1586		1491		1701	1390	1007	620	472	413
290			1486		1359		1622	1297	922	512	359	286
280			1369		1218		1520	1184	825	394	257	188
270			1242		1084		1396	1053	722	279	170	122
260			1090		946		1256	896	618	187	126	79.0
250			949		819		1053	697	513	125	89.2	49.6
240			825		711		856	455	407	79.0	62.4	12.4
230			715		626		682	194	295	50.0	42.5	
220			631		561		538	197	124.4	4.1		
210			510		433		433	117				
200			521		465		356	61.8				
190			484		424		298	12.4				
180			448		383		248					
170			403		344		206					
160			355		309		172					
150			310		274		142					
140			268		246		124					
130			230		203		111					
120			208		181		105					
110			116		147		98.1					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q/KP	A2	2	3	3	A3	A3	A3	A3	A5	5	5	4
HM1N	107	108	109	107				187	239	240	258	268
SCAT	70.5	57.6	71.0	59.7				58.8	45.6	58.6	64.3	55.0
HMAXF	345	340	356	337				347	359	395	409	399
SHMAX	2104	2085	2403	1948				1123	782	849	870	723
KM												
410										1004		
400										1004	1000	960
390										1002	984	953
380										988	954	931
370										958	914	894
360									1143	911	861	841
350	1771	1938	2028					1316	1132	855	795	765
340	1768	1937	2005	1846				1311	1094	782	711	676
330	1750	1922	1962	1839				1287	1024	695	612	573
320	1715	1861	1897	1807				1245	937	603	507	457
310	1660	1782	1812	1739				1177	832	505	395	351
300	1587	1683	1707	1655				1100	719	403	276	201
290	1501	1566	1585	1549				1007	598	302	172	116
280	1393	1434	1449	1422				899	467	209	102	60.7
270	1268	1289	1302	1281				774	318	129	56.7	12.4
260	1123	1118	1133	1130				643	170	79.8	12.4	
250	986	975	980	983				510	77.0	48.3		
240	859	847	846	833				373	12.4	.7		
230	750	742	728	707				262				
220	661	657	634	602				172				
210	590	589	563	524				104				
200	534	533	504	469				59.6				
190	487	486	455	426				19.0				
180	444	442	410	389								
170	401	397	367	350								
160	359	355	326	311								
150	310	317	289	276								
140	282	279	254	236								
130	243	240	221	206								
120	213	209	206	190								
110	180	139	74.1	163								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₁ KP		51	101	51	51	51	A1	A1	A1	1	1	1
HMJN		109	109	110	109	109				210	239	251
SCAT	66.3	60.3	55.4	70.1	62.1				44.2	47.7	55.7	49.2
HMAXF		346	343	339	352	339				364	371	389
SHMAX		2310	2192	2132	2368	1960				783	778	809
KM												677
390											1050	
380											1096	1042
370											1084	1096
360				2112							1081	1081
350		2016	2032	2112							1055	1040
340	2011	2031	2096	2098	1907						918	975
330	1985	2009	2080	2062	1897						919	893
320	1935	1960	2031	2000	1863						827	796
310	1959	1878	1935	1926	1804						726	683
300	1768	1771	1817	1825	1710						613	557
290	1641	1641	1677	1704	1601						493	434
280	1512	1486	1525	1571	1475						381	301
270	1364	1324	1353	1400	1336						278	182
260	1210	1148	1182	1224	1191						194	101
250	1057	994	1016	1029	1045						131	54.4
240	926	860	861	870	883						89.8	5.8
230	814	748	735	733	735						61.2	
220	722	662	636	623	607						41.1	
210	643	594	557	534	505							
200	573	540	496	464	423							
190	506	492	447	409	355							
180	446	443	401	365	296							
170	392	393	358	325	244							
160	346	348	317	285	200							
150	306	307	275	240	177							
140	269	262	230	205	162							
130	238	220	198	180	154							
120	207	206	186	168	147							
110	55.6	92.8	12.4	64.6	58.9							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 19 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _{KP}	1	1	1	1	1	0	0			1	1	0
H _{MIN}	108	109	108	109	108	109	199	199	219	220	277	258
SCAT	61.9	61.7	62.1	59.7	54.8	62.8	67.3	49.7	58.9	52.6	42.6	50.3
HMAXF	339	342	351	349	328	328	345	338	376	354	377	378
SHMAX	2292	2256	2320	2271	1984	1785	1250	855	802	662	467	540
KM									960		754	794
380									968		759	789
370									962	875	723	769
360									913	874	674	734
350		2032	2079	2161			1406		869	859	609	687
340	2144	2031	2063	2149			1404	1143	813	828	530	613
330	2134	2012	2013	2108	2144	1756	1388	1135	813	828	530	613
320	2096	1966	1931	2037	2133	1755	1357	1106	740	781	441	523
310	2030	1892	1836	1932	2087	1725	1306	1048	655	720	352	409
300	1939	1791	172	1802	2001	1693	1251	974	563	646	243	299
290	1819	1657	1584	1640	1883	1619	1171	890	465	560	136	192
280	1664	1517	1435	1457	1728	1548	1075	792	359	465	41.8	51
270	1488	1358	1269	1262	1556	1448	956	677	249	368		59.6
260	1309	1206	1094	1095	1350	1333	809	558	167	265		12.4
250	1119	1066	947	931	1151	1193	647	422	111	169		
240	965	928	816	790	947	1035	481	277	70.2	96.4		
230	827	807	705	671	765	877	332	173	44.5	50.9		
220	718	718	626	581	615	700		187	96.2	2.8		
210	522	638	555	515	498	52	81.0	53.0				
200	554	579	505	466	425	400	12.4	6.1				
190	497	526	467	427	374	302						
180	448	473	433	391	332	239						
170	403	418	398	354	293	195						
160	361	368	358	315	256	161						
150	321	326	318	276	221	132						
140	282	288	280	241	192	115						
130	239	253	245	214	171	107						
120	212	227	215	192	155	102						
110	171	106	173	105	132	78.9						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 20 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₁ KP	1 <td>1</td> <td></td> <td>1</td> <td>A1</td> <td>A3</td> <td></td> <td></td> <td></td> <td>2</td> <td></td> <td></td>	1		1	A1	A3				2		
H _{MIN}	109	108	106	106	108	106	A3	183	221	249	266	249
5CAT	66.9	69.4	67.7	70.3	62.1	62.9		56.7	56.2	62.1	56.2	37.3
HMAXF	335	346	346	342	354	340	324	343	393	393	389	340
5HMAX	1908	2047	2094	2202	1931	1691		926	837	871	733	540
KM												
40N									960	1050		
390									960	1049	1004	
38N									948	1038	997	
37N									921	1013	973	
36N				1861					875	974	932	
350		1727	1786	1859					818	924	875	
34N	1669	1723	1781	1843	1846			1095	751	855	796	1050
33N	1666	1703	1757	1808	1834	1756		1082	675	763	695	1032
32N	1648	1664	1714	1749	1799	1755		1051	591	659	576	974
310	1611	1600	1647	1682	1733	1795		1004	500	545	451	883
300	1555	1530	1560	1589	1656	1694		938	410	424	317	758
290	1471	1439	1459	1477	1550	1627		859	323	300	176	953
28N	1376	1333	1346	1353	1421	1549		770	250	184	88.1	387
27N	1271	1200	1215	1218	1278	1442		673	190	101	38.8	202
26N	1142	1065	1074	1082	1108	1306		573	140	55.0		79.3
25N	1017	938	934	941	955	1169		464	101	5.8		12.44
240	891	821	811	867	869	1013		359	70.4			
230	709	721	709	693	693	831		261	45.5			
220	685	637	624	602	574	736						
210	610	571	560	534	493	485		110				
200	551	520	512	480	429	377		63.0				
19N	501	476	473	434	379	303		19.6				
180	454	437	437	392	336	248						
17N	406	396	398	352	297	206						
16N	359	353	356	315	262	174						
15N	315	312	316	278	227	151						
14N	265	272	280	243	195	135						
13N	218	229	247	212	176	124						
12N	205	209	223	189	167	117						
110	84.9	171	162	151	134	97.4						

ELECTRON DENSITY

PAMEY AFB, PUERTO RICO 60 W 21 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QVPO	2	2	2	2	2	A3	3	3	3	3	2	2
HMIN	109	107	109	109	109		198	199	212	240	254	246
SCAT	68.5	68.7	53.2	50.5	65.4		57.7	60.5	54.5	45.2	47.1	50.1
HMAXF	341	356	351	333	344		340	356	371	371	373	366
SHMAY	2316	2433	2199	2112	2275		1344	1228	956	821	802	831
KM												
36n									1143	1240	1215	
37n									1143	1240	1214	1215
36n		2032	2161				1433	1132	1221	1194	1211	
35n	2032	2028	2161		2144		1429	1102	1172	1146	1183	
34n	2032	2004	2139	2294	2142		1669	1408	1049	1094	1073	1131
33n	2020	1958	2079	2292	2120		1657	1367	982	981	965	1057
32n	1986	1888	1972	2257	2073		1620	1322	902	847	834	951
31n	1931	1793	1831	2177	1977		1558	1242	810	698	680	821
30n	1848	1680	1671	2043	1908		1474	1217	705	536	514	663
29n	1752	1560	1791	1786	1781		1365	1006	600	380	355	503
28n	1424	1424	1297	1535	1535		1222	870	491	243	199	331
27n	1466	1285	1134	1478	1478		1067	726	384	138	96.7	180
26n	1349	1142	972	1255	1305		896	570	286	76.9	46.5	85.5
25n	1197	1008	831	1064	1147		702	422	295	46.3		38.8
24n	1041	886	719	874	967		504	204	140	1.5		
23n	903	781	633	713	795		322	192	79.9			
22n	782	688	564	597	649		173	117	44.1			
21n	676	608	515	518	531		79.8	67.8				
20n	586	541	471	459	443		21.2	12.4				
19n	511	483	431	411	378							
18n	444	435	390	369	329							
17n	392	393	346	329	285							
16n	348	355	306	291	247							
15n	311	315	272	250	217							
14n	276	278	242	215	190							
13n	238	244	204	196	165							
12n	210	213	187	186	152							
11n	147	164	144.8	110	110							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 SEP 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0.15P	2	2	3	3	A3							
0.15P	109	109	108	107	108	A3	A3	A3	A3	3	3	3
5CAT	63.1	63.4	65.2	60.1	59.6				57.7	57.8	52.6	44.7
HMAXF	342	342	346	341	336				373	375	390	374
SHMAF	2392	2349	2463	2318	2116				915	961	790	710
KM												
400											1050	
390											1050	
380									1050	1143	1040	1143
370									1049	1140	1011	1141
360									1037	1123	962	1115
350	2227	2161	2277	2260					1009	1086	896	1057
340	2226	2160	2272	2260	2112				958	1032	815	977
330	2208	2142	2243	2242	2107				900	966	717	867
320	2161	2097	2187	2193	2075				836	886	605	729
310	2072	2024	2097	2166	2009				760	788	485	572
300	1971	1951	1981	1981	2117				675	675	364	394
290	1849	1797	1859	1856	1796				579	561	235	219
280	1700	1650	1693	1687	1649				478	448	136	106
270	1530	1482	1508	1495	1486				378	332	72.6	47.0
260	1346	1300	1310	1297	1305				281	228	33.1	
250	1144	1113	1108	1105	1137				190	149		
240	980	968	961	927	960				123	93.2		
230	836	838	796	778	802				77.4	54.7		
220	713	725	674	654	665				47.1	12.4		
210	609	633	577	560	556				1.1			
200	530	557	506	489	469							
190	471	491	441	433	399							
180	428	433	408	386	344							
170	390	384	369	346	297							
160	354	343	333	308	255							
150	317	308	298	274	218							
140	278	274	243	243	185							
130	241	240	233	215	162							
120	211	211	210	193	151							
110	74.1	162	168	162	128							

ELECTRON DENSITY

RAMEY AFR. PUERTO RICO												60 W	23 SEP 1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	
Q*FP	3	3	4	4	4	4	4	54	A1	A1	A1	1	
HMIN	228	229	186	180	196	299	280	189			109	108	
SCAT	40.0	41.7	34.1	48.0	69.9	68.7	72.3	44.4			61.3	77.8	
HMAXF	339	328	262	276	336	447	416	284			322	344	
SHMAX	640	617	412	227	140	141	202	458			1505	2030	
KM													
450						148							
440						147							
430						145							
420						141	214						
410						136	213						754
400						130	211						751
390						123	207						734
380						114	201						435
370						102	192						328
360						88.4	182						862
350						74.5	170						831
340	1084				148	61.5	155				1654		720
330	1070	1096			147	50.7	139			1446	1641		720
320	1020	1086			146	41.8	119			1446	1614		647
310	939	1046			142	23.0	95.9			1433	1575		563
300	828	974			136	1.8	70.2			1401	1519		473
290	700	869			130		45.3	794		1350	1461		383
280	554	723		362	123		2.2	792		1278	1379		286
270	403	553	917	360	114			774		1190	1280		183
260	236	363	916	351	104			735		1080	1173		113
250	118	182	888	335	92.5			681		957	1058		68.5
240	60.5	76.6	824	313	80.2			593		828	933		40.8
230	12.4	12.4	709	280	67.1			469		706	810		
220			540	235	54.7			331		599	695		
210			329	181	42.5			189		514	594		
200			139	110	12.4			81.8		452	508		
190		45.7	55.3					12.4		404	439		
180										365	386		
170										329	347		
160										291	317		
150										251	289		
140										218	256		
130										189	221		
120										169	193		
110										58.9	139		

ELECTRON DENSITY

RAMEY AFR. PUERTO RICO												60 W	23 SEP 1960
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
Q*FP	1	1	1	1	1	A3	A3	A3	A5	A5	A5	5	
HMIN	109	109	106	109	109			193	222			283	
SCAT	54.9	56.0	59.3	58.1	62.3			50.7	51.1			42.2	
HMAXF	319	328	330	325	320			333	367			400	
SHMAX	1697	1766	1744	1570	1481			661	580			498	
KM													
400													794
390													784
380													750
370													693
360													621
350													535
340				1669						875	699		435
330			1786	1669	1555	1487				874	652		328
320	1786	1776	1656	1553	1487					862	596		222
310	1775	1737	1620	1530	1476					831	529		137
300	1735	1671	1560	1485	1447					782	452		76.9
290	1664	1570	1473	1410	1392					720	376		41.9
280	1562	1451	1365	1316	1335					647	295		
270	1432	1300	1238	1207	1251					563	219		
260	1281	1157	1113	1082	1137					473	152		
250	1120	998	968	947	1007					383	98.4		
240	934	833	825	813	866					286	62.1		
230	757	688	694	691	736					183	37.2		
220	614	572	587	584	613					113			
210	514	496	508	495	502					68.5			
200	452	442	451	426	411					40.8			
190	411	401	411	377	342								
180	381	367	377	339	295								
170	353	335	345	301	257								
160	322	302	313	279	225								
150	287	266	279	248	196								
140	250	230	245	218	168								
130	214	199	213	189	147								
120	190	186	192	170	135								
110	106	74.1	168	80.9	97.2								

ELECTRON DENSITY

RAMEY AFR. PUERTO RICO												60 W	24 SEP 1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	
Q*FP	5	5	5	5	5	85	5	5	2	2	2	A4	
HMIN	243	216	193	185	334	341	287	222	106	108	106		
SCAT	42.3	34.4	35.4	44.7	71.4	88.9	79.4	27.1	47.3	46.9	71.4		
HMAXF	350	301	264	262	464	516	425	281	278	289	322		
SHMAX	567	443	275	117	93	133	199	243	818	1105	1666		
KM													
520						112							
510						111							
500						111							
490						109							
480						107							
470						101	104						
460						101	101						
450						99.8	96.1						
440						98.0	90.3						
430						94.1	84.5	198					
420						89.7	77.9	198					
410						85.3	71.2	197					
400						79.5	63.8	194					
390						72.9	56.5	189					
380						65.5	49.3	183					
370						57.6	42.7	174					
360						49.3	30.2	165					
350	960					40.6	14.0	155					
340	947					15.0		143					
330	906							128			1528		
320	840							108			1528		
310	747	928						85.9			1518		
300	629	928						59.4			1492		
290	493	900						18.7	679		1341	1452	
280	330	841							679	1050	1329	1394	
270	174	736	608	208					651	1042	1286	1331	
260	89.7	593	605	208					577	1011	1208	1242	
250	44.7	420	583	205					454	954	1106	1142	
240		240	540	195					265	878	982	1015	
230		113	465	183					79.5	778	842	879	
220		43.9	355	164						659	701	747	
210			192	136						537	579	629	
200			61.7	93.4						421	479	528	
190				49.0						333	401	444	
180										270	338	377	
170										221	287	323	
160										180	243	275	
150										148	205	231	
140										124	171	192	
130										110	147	165	
120										102	134	153	
110										86.3	101	136	

ELECTRON DENSITY

RAMEY AFR. PUERTO RICO									60 W	24 SEP 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
Q*KP	A4	4	A3	A3	A3	A1	A1	A1	A1	1	1	1	
HMIN		108								238	256	233	
SCAT		67.5								46.8	56.0	43.6	
HMAXF		336								364	376	346	
SHMAX		2206								564	583	504	
KM													
380										784			
370										834	782		
360										833	768		
350										816	741	824	
340		2032								779	704	820	
330		2028								724	652	797	
320		2003								653	588	749	
310		1956								567	507	685	
300		1885								470	413	601	
290		1797								357	304	493	
280		1681								251	193	364	
270		1545								152	92.6	234	
260		1389								87.3	40.9	135	
250		1226								53.1		73.9	
240		1071								12.4		41.7	
230		917											
220		782											
210		656											
200		544											
190		445											
180		373											
170		323											
160		285											
150		258											
140		222											
130		196											
120		185											
110		112											

ELECTRON DENSITY

RAYEY AFB, PUERTO RICO										
60 W 25 SEP 1960										
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900 1000 1100
Q _z KP	1	1	1	1	1	1	1	1	0	R0 R0 1
HMIN	222	209	209	209	198	229	219	109	108	113 111
SCAT	46.6	38.0	49.6	52.6	63.4	48.6	55.3	35.0	45.7	51.6 50.5
HMAXF	319	299	307	314	328	334	323	250	269	295 308
SHMAX	451	346	336	237	198	122	160	368	749	1315 1663
KM										
340						179				
330						179	219			
320	754			335	228	175	219			
310	747		532	335	225	168	216			1891
300	723	679	529	329	218	156	209			1555 1879
290	685	670	516	318	208	141	199			1552 1830
280	624	637	492	299	197	122	186			1524 1738
270	538	583	459	275	182	102	169		1004	1466 1616
260	419	496	409	246	164	80.5	148	643	995	1372 1459
250	275	380	338	209	143	60.0	123	643	961	1253 1268
240	137	247	240	166	120	42.3	93.4	629	905	1116 1066
230	57.4	114	149	119	96.7	4.1	64.4	588	821	940 884
220		58.2	75.9	74.9	73.2	12.4	522	723	770	730
210		4.5	12.4	12.4	49.0		430	623	617	604
200					12.4		320	510	496	509
190							223	398	416	442
180							151	294	363	392
170							102	212	318	353
160							80.7	158	270	316
150							70.5	121	226	277
140							67.3	109	184	239
130							64.1	104	158	208
120							60.9	99.7	146	178
110							38.9	67.3		

ELECTRON DENSITY

RAYEY AFB, PUERTO RICO										
60 W 25 SEP 1960										
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100 2200 2300
Q _z KP	1	A1	A3	A3	A3	A1	A1	A1	A3	A3 3 1
HMIN	108							192	238	215 221 258
SCAT	53.8							50.7	43.0	51.9 53.8 49.2
HMAXF	307							327	350	347 356 373
SHMAX	1754							845	618	668 559 489
KM										
340										735
330										734
320									960	735
310									960	917 733 692
300									946	913 719 652
290									1143	904 894 690 592
280									1137	837 855 652 513
270	1969								1110	749 803 601 418
260	1961								1059	644 732 533 308
250	1920								988	534 643 457 197
240	1834								901	421 540 374 118
230	1727								806	305 428 294 59.6
220	1591								691	189 314 212 12.4
210	1427								566	98.5 194 132
200	1230								413	25.6 114 79.1
190	1027								264	66.6 46.1
180	831								151	32.2
170	657								84.7	
160	531								45.4	
150	444									
140	383									
130	337									
120	298									
110	259									
100	225									
90	199									
80	185									
70	131									

ELECTRON DENSITY

RAYEY AFB, PUERTO RICO										
60 W 26 SEP 1960										
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900 1000 1100
Q _z KP	1	1	3	3	83	2	2	1	1	81 1
HMIN	237	211	195	202	214	274	247	110	107	109
SCAT	39.8	41.2	33.5	43.6	83.9	84.0	58.2	37.6	40.4	62.5
HMAXF	344	300	271	281	362	419	372	263	265	314
SHMAX	459	397	289	205	193	162	137	704	833	1643
KM										
420						152				
410						151				
400						150				
390						147				
380						144	170			
370						179	139	170		
360						179	134	168		
350	794					178	129	164		
340	791					176	122	156		
330	768					172	112	146		
320	718					168	99.4	135		1612
310	646					162	84.9	121		1610
300	559	754				154	69.4	104		1590
290	449	744				146	52.6	87.2		1549
280	320	710	643	375	137	26.8	69.5			1482
270	205	658	643	369	126	53.2		1096	1143	1403
260	111	570	627	353	113	39.8		1094	1130	1305
250	62.2	451	583	331	97.1	9.4		1064	1104	1190
240	19.9	272	509	294	79.6			997	1030	1063
230	136	393	238	61.2				886	932	923
220	61.1	249	165	40.5				736	819	782
210		132	80.7					577	687	650
200		47.1						439	558	531
190								345	447	444
180								271	363	384
170								214	293	340
160								171	242	305
150								142	201	273
140								122	166	239
130								108	142	207
120								99.4	133	185
110								12.4	110	92.8

ELECTRON DENSITY

RAYEY AFB, PUERTO RICO										
60 W 26 SEP 1960										
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100 2200 2300
Q _z KP	1	1	3	3	3	A4	A4	4	5	5 5 4
HMIN	109	109	109	109	109			218	206	239 253 269 250
SCAT	52.6	56.2	49.2	55.8	54.4			53.9	44.7	55.4 51.6 46.9 52.6
HMAXF	304	324	321	317	309			328	332	375 390 379 390
SHMAX	1605	1888	1831	1864	1569			1007	779	957 848 755 885
KM										
390										1131 1203
380										1215 1121 1143 1193
370										1213 1088 1131 1161
360										1193 1034 1093 1106
350										1153 963 1028 1031
340										1131 1092 876 940 932
330		1907	2032					1433	1130	1013 771 830 808
320		1904	2031	2032				1425	1110	919 650 699 663
310	1786	1878	2006	2023	1786			1393	1058	812 517 563 509
300	1783	1820	1939	1982	1774			1335	982	691 393 407 363
290	1754	1727	1818	1900	1732			1251	895	555 262 240 236
280	1692	1611	1669	1709	1658			1148	794	416 148 92.1 142
270	1588	1467	1493	1660	1557			1013	671	266 79.1 124.8 81.9
260	1460	1304	1302	1499	1421			844	541	148 42.5 48.0
250	1316	1152	1109	1322	1270			650	399	69.5
240	1159	998	926	1106	1087			410	270	12.4
230	977	847	773	898	905			149	159	
220	802	719	638	727	734			28.3	83.9	
210	647	613	533	589	587				37.4	
200	527	527	464	480	467					
190	447	456	414	405	371					
180	390	401	375	351	307					
170	348	356	338	306	257					
160	313	317	304	268	217					
150	281	270	272	235	183					
140	246	239	234	204	157					
130	212	207	198	177	140					
120	190	188	182	163	131					
110	100	84.9	131	55.6	41.8					

ELECTRON DENSITY

RAYEY AF8, PUERTO RICO													60 W	27 SEP 1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100		
Q _z KP	4	4	4	4	4	3	3	3	S1	1	1	1		
HMIN	221	215	199	229	238	287	225	98		109	106	108		
SCAT	46.8	43.6	36.1	36.0	61.4	57.6	44.1	38.7		54.5	47.4	60.3		
HMAXF	328	319	288	290	370	413	319	253		287	288	308		
SHMAX	747	716	570	207	221	209	186	412		1226	1411	1662		
KM														
420							262							
410							262							
400							259							
390							252							
380							241							
370						262	225							
360						261	206							
350						256	183							
340						247	157							
330	1228					234	128							
320	1218	1240				220	98.0	310						
310	1181	1227				200	71.2	307				1712		
300	1116	1182				177	47.2	296				1705		
290	1023	1107	1191	500	152	12.4	276			1446	1786	1674		
280	885	993	1178	491	124		249			1440	1772	1613		
270	709	837	1118	464	95.5		215			1409	1718	1545		
260	496	652	1017	421	68.1		172	64.3		1355	1622	1444		
250	256	398	842	320	45.1		123	64.2		1273	1493	1316		
240	120	177	616	113	8.0			72.3	624	1173	1319	1177		
230	57.5	85.3	357	12.4				34.0	582	1041	1094	1015		
220		36.2	169					523		883	879	847		
210			74.5					447		708	699	695		
200			12.4					358		561	551	575		
190								270		438	451	475		
180								190		351	380	402		
170								136		290	326	350		
160								101		243	282	307		
150								83.0		205	242	268		
140								73.4		176	209	232		
130								67.8		158	184	200		
120								63.3		147	170	187		
110								54.4		64.6	136	130		
100								12.4						

ELECTRON DENSITY

RAYEY AF8, PUERTO RICO													60 W	27 SEP 1960
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		
Q _z KP	1	1	2	2	2	A1	A1	1	1	1	1	2		
HMIN	109	108	107	109	107		207	207	211	211	234	249		
SCAT	47.4	51.1	54.6	55.6	50.9		120	51.7	53.1	59.0	52.5	45.7		
HMAXF	297	309	316	312	303		408	334	334	355	375	366		
SHMAX	1579	1723	1962	1898	1556		2347	748	652	626	513	437		
KM														
410							1597							
400							1595							
390							1588							
380							1575					679		
370							1557					678	679	
360							1532					754	665	676
350							1503					753	641	659
340							1467	1004	917	742	606	625		
330							1427	1003	916	720	555	576		
320							1380	986	901	685	493	506		
310							1328	949	869	644	421	424		
300	1907	1890	2096	2121	1905		1270	894	824	589	342	331		
290	1896	1838	2017	2063	1878		1210	822	759	524	265	231		
280	1844	1745	1909	1969	1813		1151	735	672	453	188	142		
270	1744	1622	1758	1850	1704		1067	635	566	371	127	87.4		
260	1608	1460	1573	1683	1566		956	528	450	292	83.1	50.2		
250	1433	1277	1362	1474	1400		824	412	310	206	54.1	6.8		
240	1213	1103	1150	1248	1196		677	296	183	129	26.8			
230	1007	919	941	999	972		497	192	95.3	78.1				
220	820	755	757	785	767		298	104	49.6	45.6				
210	666	617	612	621	587		61.8	41.6						
200	548	519	509	503	445									
190	462	451	439	415	355									
180	404	403	388	354	296									
170	359	368	348	308	250									
160	324	336	310	275	208									
150	291	301	274	245	172									
140	251	260	244	213	152									
130	210	218	217	185	140									
120	189	192	192	169	133									
110	84.9	160	142	120	118									

ELECTRON DENSITY

RAYEY AF8, PUERTO RICO													60 W	28 SEP 1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100		
Q _z KP	2	2	2	2	2	3	3	A3	A1	1	1	2		
HMIN	248	232	230	198	191	247	228	209	109	107	109	109		
SCAT	35.3	43.3	43.9	32.1	68.2	55.3	66.4	32.2	44.0	45.1	44.1	63.2		
HMAXF	345	337	326	267	312	363	358	276	280	273	289	306		
SHMAX	321	347	325	227	218	151	203	277	802	1140	1308	1649		
KM														
370							198							
360							198	235						
350	608						196	234						
340	604	573					190	230						
330	579	570	557				180	224						
320	478	552	554			251	188	215						
310	457	518	539			251	153	205				1727		
300	375	470	512			249	133	192				1723		
290	283	404	465			244	111	175				1669	1700	
280	187	324	403			236	87.7	151	608	1096	1555	1653	1653	
270	106	242	323	540	225	65.7	124	602	1082	1554	1594	1588		
260	59.6	150	222	534	213	46.4	94.1	568	1039	1524	1485	1505		
250	12.4	82.2	121	503	199	12.4	65.5	506	971	1457	1344	1392		
240		45.1	59.0	448	180		44.3	420	872	1356	1162	1246		
230			4.1	351	158		8.2	328	750	1212	982	1057		
220				212	130			221	606	1022	810	865		
210				91.9	96.3			41.8	473	815	652	699		
200				24.6	56.6				371	629	531	564		
190									293	470	442	460		
180									234	367	378	388		
170									189	301	325	339		
160									154	258	280	300		
150									128	223	239	265		
140									109	191	209	226		
130									96.0	158	179	188		
120									89.0	136	157	167		
110									49.0	105	55.6	49.0		

ELECTRON DENSITY

RAYEY	AF8, PUERTO RICO												60 W	28 SEP 1960
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		
QzKP	2	2	A1	1	1	A1	A1	1	A1	1	1	0		
HMIN	109	108		109	109			228	207	198	250	246		
SCAT	61.2	57.4		58.0	46.8			48.7	48.9	50.0	53.2	44.0		
HMAXF	324	327		320	297			326	336	331	375	360		
SHMAX	1922	1964		2025	1554			697	605	478	428	362		
KM														
380											573			
370											572			
360											563	573		
350											543	567		
340									875	643	513	545		
330	1907	2000						1050	871	643	474	510		
320	1905	1993		2144				1046	851	635	422	457		
310	1882	1956		2130				1023	810	614	364	387		
300	1833	1887		2083	2032			974	755	578	299	312		
290	1757	1799		2000	2019			907	677	532	234	235		
280	1670	1668		1893	1962			823	584	477	164	158		
270	1540	1508		1748	1854			725	479	412	99.2	101		
260	1379	1330		1583	1705			607	359	343	52.6	60.7		
250	1204	1164		1393	1514			470	238	280				
240	1027	993		1183	1286			288	148	210				
230	866	828		975	1008			53.9	91.7	137				
220	727	680		798	788				56.4	83.8				
210	613	569		652	597				18.3	53.9				
200	523	485		536	463					12.4				
190	454	418		442	373									
180	396	369		373	307									
170	348	331		318	262									
160	310	301		274	228									
150	276	267		243	198									
140	239	229		215	170									
130	205	198		188	145									
120	185	185		169	133									
110	58.9	77.9		68.6	78.9									

FLUCTRON DENSITY

RAMEY AFB, PUERTO RICO	60 W										29 SEP 1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000 1100
Q _z FP	0	0	3	3	3	2	2	A2	A5	A5	A5 3
HMIN	228	227	204	198	187	214	237				109
SCAT	39.8	43.4	34.5	31.5	52.3	62.7	44.3				51.9
HMAXF	328	318	293	269	295	330	331				290
SHMAX	320	316	244	189	157	147	134				1323
KM											
340							219				
330	573					179	219				
320	568	557				178	215				
310	545	551				175	206				
300	506	530	508		219	169	191				
290	445	499	507		218	161	171				
280	365	448	491		214	150	145				1555
270	274	367	454	446	206	138	116				1542
260	174	281	395	438	194	124	85.0				1499
250	100	180	308	407	178	107	56.1				1425
240	57.2	87.3	196	355	158	86.3	19.0				1328
230	12.4	31.0	114	270	134	62.9					1196
220			66.7	157	109	36.8					1038
210			36.8	75.2	83.6						852
200				21.2	48.9						690
190					19.6						551
180											451
170											384
160											335
150											296
140											261
130											227
120											196
110											175

FLUCTRON DENSITY

RAMEY AFB, PUERTO RICO	60 W										29 SEP 1960
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200 2300
Q _z FP	3	3	2	2	A2	A4	A4	4	A5	A5	A5 4
HMIN	108	109	108	108				208	189	200	218 254 258
SCAT	54.4	57.6	56.8	48.7				54.9	60.8	60.8	64.3 57.0 48.6
HMAXF	303	323	322	316				314	343	351	370 375 361
SHMAX	1434	1768	1913	1755				1089	1141	910	864 732 609
KM											
380											1004 949
370											1004 947 960
360											1050 998 932 960
350											1341 1049 979 902 947
340											1340 1041 948 861 914
330		1786	2032								1325 1019 910 800 861
320		1784	2031	2063				1555	1291	980	852 719 786
310	1555	1763	2009	2056				1553	1240	929	780 622 676
300	1554	1714	1956	1998				1529	1170	867	689 512 548
290	1532	1634	1870	1909				1478	1085	796	587 398 388
280	1483	1534	1765	1780				1397	970	710	478 284 231
270	1401	1402	1610	1608				1296	843	613	356 170 104
260	1295	1259	1434	1404				1171	714	599	238 93.5 25.6
250	1174	1102	1245	1191				1008	575	403	146 50.4
240	1032	936	1027	987				788	435	294	88.4
230	881	788	850	797				523	288	181	53.0
220	733	662	696	641				202	175	99.6	12.4
210	607	560	570	521				32.2	99.7	52.1	
200	506	482	477	438							54.4
190	432	424	409	379							5.8
180	376	377	356	332							
170	333	336	314	291							
160	299	299	277	254							
150	265	265	242	219							
140	227	234	208	187							
130	195	205	181	162							
120	181	184	168	150							
110	84.8	119	86.7	78.2							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO	60 W										30 SEP 1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000 1100
Q _z FP	4	4	4	4	4	3	3	A3	A4	A4	A4 A4
HMIN	214	227	237	219	178	187	188				
SCAT	47.9	50.3	40.5	43.0	42.5	61.4	39.2				
HMAXF	318	355	337	330	293	313	262				
SHMAX	567	462	403	445	388	368	134				
KM											
360		643									
350		641									
340		628	716	716							
330		602	711	716							
320	917	564	686	706		446					
310	910	513	640	676		446					
300	884	451	570	626	608	441					
290	839	380	476	559	607	430					
280	773	302	362	480	594	413					
270	678	223	241	393	562	390	262				
260	555	148	134	286	514	362	262				
250	381	90.8	69.1	182	455	327	256				
240	214	54.8	19.0	100	385	286	241				
230	105	17.9		55.0	311	242	220				
220	46.2			5.6	240	192	187				
210					168	130	141				
200					97.8	68.4	81.0				
190					56.1	19.9	23.0				
180					12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO	60 W										30 SEP 1960
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200 2300
Q _z FP	A4	4	A4	A4	A4	A5	A5	5	A4	4	4 6
HMIN		109	108					201		179	217 227
SCAT		64.5	49.8					49.7		60.8	44.1 49.1
HMAXF		324	313					335		325	326 335
SHMAX		2174	1879					784		692	442 378
KM											
340								1096			573
330		2243						1093		794	716 572
320		2241	2294					1072		792	713 561
310		2216	2292					1026		781	694 537
300		2164	2255					962		759	694 501
290		20.2	2172					876		726	599 444
280		1984	2039					776		684	523 394
270		1849	1867					657		628	431 318
260		1665	1639					520		563	327 234
250		1433	1370					373		492	219 140
240		1198	1085					246		419	127 71.2
230		974	867					145		350	68.0 20.3
220		758	688					83.9		280	19.9
210		594	539					46.8		209	
200		485	419							127	
190		412	370							67.3	
180		359	310							12.4	
170		316	273								
160		277	230								
150		243	201								
140		214	185								
130		194	174								
120		182	166								
110		52.8	119								

[illegible]

ELECTRON DENSITY

RAMEY AFB, RUERTO RICO

60 W

1 OCT 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	6	6	5	5	5	5	5	55	A5	A5	5	4
HMIN	262	275	219	227	201	205	234		108		107	107
SCAT	49.4	49.0	47.4	41.8	71.7	62.5	49.6		46.3		59.4	58.1
HMAXF	393	398	329	324	353	362	323		313		301	337
SHMAX	380	380	406	339	378	298	225		982		1491	1896
KM												
400	524	540										
300	423	537										
380	514	522										
370	493	496				323						
360	465	462				389	322					
350	423	410				389	319					
340	372	352				386	312					
330	315	289	643	608	379	300	362				1907	
320	255	225	637	606	368	287	361				1899	
310	197	161	617	591	353	267	356		1096		1865	
300	140	101	585	557	337	242	343		1095	1669	1802	
290	93.8	61.0	538	509	314	216	322		1075	1668	1708	
280	61.0	29.4	465	434	288	187	295		1026	1655	1592	
270	37.2		372	334	258	159	259		955	1618	1444	
260			270	216	225	133	207		872	1557	1271	
250			168	120	189	108	135		780	1470	1076	
240			94.6	63.7	150	85.6	58.4		687	1365	903	
230			53.3	19.6	108	64.6			592	1234	751	
220			6.1		69.6	47.7			504	1092	624	
210					43.7	20.5			432	900	529	
200									373	697	459	
190									320	514	409	
180									274	385	375	
170									233	306	347	
160									195	250	318	
150									159	198	283	
140									130	174	238	
130									116	160	198	
120									107	154	177	
110									100	147	167	
									70.2	104	125	

ELECTRON DENSITY

RAMEY AFB, RUERTO RICO

60 W

1 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	A4	4	4	4	A4	A5	A5	5	5	5	5	5
HMIN	109	109	109					199	212	199	208	237
SCAT	52.1	49.7	42.8					51.8	44.9	42.5	48.5	37.7
HMAXF	316	317	292					313	331	317	329	331
SHMAX	2088	1946	1778					807	673	487	445	371
KM												
340								1050			679	540
330								1049			643	538
320	2430	2294						1143	1033	754	638	663
310	2424	2281						1142	988	750	619	622
300	2376	2224	2571					1124	920	725	584	560
290	2283	2116	2570					1082	829	678	538	481
280	2151	1968	2523					1022	716	613	482	392
270	1964	1774	2403					941	583	542	409	284
260	1741	1545	2219					835	430	458	331	161
250	1476	1303	1964					763	278	366	255	130
240	1212	1044	1640					558	158	270	177	31.0
230	983	843	1260					407	85.6	177	105	52.0
220	776	670	957					278	46.1	100	58.3	12.4
210	610	539	672					142		53.7	12.4	
200	488	451	482					12.4		5.8		
190	408	380	372									
180	353	344	308									
170	312	305	268									
160	277	269	232									
150	243	235	197									
140	214	203	172									
130	195	178	157									
120	183	167	148									
110	127	128	97.2									

ELECTRON DENSITY

RAMEY AFB, RUERTO RICO

60 W

2 OCT 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	5	5	6	6	6	5	5	5	A6	A6	A6	A6
HMIN	257	259	221	197	190	229	196	199				
SCAT	47.0	54.3	42.3	35.7	35.2	67.2	89.7	43.1				
HMAXF	378	395	330	276	277	369	368	299				
SHMAX	329	386	343	229	172	181	240	304				
KM												
400	500											
390	499											
380	477	491										
370	473	474				193	198					
360	459	450				193	198					
350	433	417				189	196					
340	397	373				184	194					
330	352	325	573			176	190					
320	300	267	566			166	184					
310	244	210	542			155	178					
300	188	155	501			141	170	508				
290	135	106	447			126	163	502				
280	88.7	69.6	375	477	335	110	153	483				
270	55.2	45.0	287	473	332	94.5	140	449				
260	18.1	2.5	194	452	315	78.0	127	403				
250			123	412	283	60.8	113	344				
240			74.2	352	241	43.4	99.2	270				
230			45.2	272	188	3.6	86.3	186				
220				165	137		73.1	112				
210				78.9	89.7		57.9	74.3				
200				33.6	50.8		26.8	12.4				

ELECTRON DENSITY

RAMEY AFB, RUERTO RICO

60 W

2 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	A6	6	5	5	5	A3	3	3	3	3	3	2
HMIN	109	107	110	106	109	109	199	200	204	246	239	201
SCAT	55.9	52.5	47.9	48.3	42.8	44.9	45.8	46.8	63.1	40.3	41.0	38.1
HMAXF	312	325	310	302	296	274	294	306	367	354	328	280
SHMAX	2063	2038	2010	1919	1578	1174	637	487	524	341	345	289
KM												
370									573			
360									572	573		
350									563	572		
340									547	556		
330		2227							523	521	643	
320	2294	2222							493	471	637	
310	2293	2181	2536	2430					754	456	407	613
300	2268	2094	2510	2429	2161			1050	751	410	333	570
290	2206	1979	2428	2393	2148			1048	732	359	250	507
280	2102	1817	2291	2305	2081	1786		1026	693	307	168	414
270	1969	1616	2096	2157	1945	1783		977	641	255	106	290
260	1800	1396	1851	1967	1763	1744		906	572	204	61.5	162
250	1593	1159	1553	1730	1540	1660		812	487	159	25.6	72.7
240	1369	961	1250	1450	1294	1525		692	387	120		42.4
230	1118	798	956	1157	1072	1361		536	276	82.3		261
220	893	666	743	902	817	1123		352	154	54.6		126
210	710	565	581	693	619	853		150	71.7	26.8		58.5
200	573	488	470	532	473	594	12.4	2.0				
190	469	431	400	428	364	391						
180	394	383	351	359	291	236						
170	341	341	312	308	240	167						
160	303	304	278	265	205	134						
150	271	271	247	227	172	110						
140	234	234	217	196	144	92.4						
130	196	195	187	173	127	81.8						
120	172	172	167	155	119	74.3						
110	119	135	124	134	100	64.2						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 3 OCT 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z FP	2	2	3	3	3	5	5	5	3	3	3	B3
HMIN	191	196	200	204	270	258	204	199	109	108	107	
SCAT	40.5	68.0	58.3	62.3	60.7	56.4	52.2	31.5	34.0	55.6	57.3	
HMAXF	277	313	319	347	394	376	311	259	255	282	294	
SHMAX	240	215	170	171	163	161	198	252	542	957	1497	
KM												
400					198							
390					198							
380					196	208						
370					191	208						
360					183	204						
350				193	172	197						
340				193	161	187						
330				190	145	175						
320		257	219	185	125	158	286					
310		257	217	176	102	137	286					
300		255	213	166	79.6	114	282					
290		250	205	154	59.1	90.8	274		1119	1666		
280	446	242	194	138	41.0	67.6	260		1119	1643		
270	443	231	181	120		46.3	244		1105	1594		
260	427	220	164	100		7.6	220	643	875	1073	1515	
250	398	204	142	82.1			185	630	870	1027	1416	
240	357	184	113	65.7			144	585	832	956	1292	
230	291	155	81.7	51.6			101	507	754	863	1153	
220	212	117	57.7	40.5			63.6	375	651	749	987	
210	123	71.7	40.4	15.0			35.0	143	535	622	799	
200	57.1	28.3	4.3					12.4	422	503	625	
190									327	402	495	
180									250	321	400	
170									195	267	336	
160									151	224	290	
150									114	178	251	
140									99.2	142	212	
130									92.6	125	177	
120									87.2	118	154	
110									41.8	101	128	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 3 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z FP	3	83	2	A2	2							
HMIN	109	109	109	109	109							
SCAT	46.7	50.3	52.5	57.8	51.0							
HMAXF	294	314	311	318	299							
SHMAX	1677	1878	2024	2126	1847							
KM												
370											446	
360											445	
350											433	
340											407	477
330											432	476
320		2144	2413	2413						540	428	322
310		2141	2413	2401						537	415	266
300	2161	2104	2386	2354	2413					522	393	208
290	2157	2023	2316	2268	2400					1240	679	491
280	2114	1906	2202	2162	2341					1239	678	450
270	2019	1735	2051	2003	2232					1213	662	396
260	1879	1534	1835	1784	2087					1155	627	334
250	1686	1320	1580	1524	1887					1071	577	267
240	1449	1089	1307	1232	1634					931	513	205
230	1177	900	1002	992	1330					742	443	149
220	907	739	766	757	963					480	341	103
210	702	620	595	590	678					165	220	69.6
200	555	526	482	465	481					12.4	113	47.2
190	458	452	406	381	365					61.5	12.4	41.8
180	380	392	353	323	297					12.4		8.9
170	339	342	313	279	252							
160	297	301	280	242	217							
150	259	262	252	208	189							
140	221	224	223	179	164							
130	186	190	191	158	144							
120	168	169	169	147	132							
110	68.6	78.9	76.1	64.6	59.6							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 4 OCT 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z FP	1	1	2	2	2	3	3	3	53	3	3	A6
HMIN	218	208	211	197	196	275	226	198		109	109	110
SCAT	31.4	27.7	33.9	45.8	59.4	52.1	60.1	30.2		45.3	44.5	51.1
HMAXF	286	267	287	298	306	385	348	256		267	285	291
SHMAX	198	115	124	139	134	116	153	281		1006	1244	1536
KM												
390						161						
380						160						
370						157						
360						152						
350						143	189					
340						131	188					
330						116	184					
320						98.5	178					
310						174	79.8	169				
300				219	174	61.1	159					
290	477		262	217	171	44.7	145					1876
280	473		259	210	166	15.8	128					1626
270	446	310	245	199	158		108					1406
260	397	305	221	182	150		86.6	754				1397
250	319	281	183	160	141		64.5	748				1355
240	200	237	136	131	124		46.0	704				1281
230	87.3	171	86.1	100	98.5		16.3	619				1175
220	23.0	83.8	47.1	71.2	70.5			460				1014
210		23.7		48.2	48.3			202				810
200				12.4	16.7			34.9				615
190												465
180												365
170												298
160												248
150												207
140												175
130												151
120												133
110												54.0

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 4 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z FP	A6	56	57	7	57	56	6	6	4	4	4	5
HMIN	109		109	109	109		204	180	196	257	270	201
SCAT	53.7		49.5	51.9	51.0		51.1	46.1	58.8	45.6	47.7	39.0
HMAXF	305		336	330	318		307	314	370	375	378	292
SHMAX	1730		2155	2287	2328		1369	874	714	468	546	375
KM												
380									794	716	834	
370									794	714	828	
360									788	698	804	
350									770	662	762	
340			2430						739	612	700	
330			2421	2571					698	545	620	
320			2367	2546	2865			1143	649	466	521	
310	1907		2255	2478	2849		2032	1141	591	370	408	
300	1903		2094	2348	2780		2021	1116	528	268	287	716
290	1872		1905	2182	2651		1973	1063	459	177	176	716
280	1807		1692	1981	2475		1884	985	386	109	78.2	700
270	1700		1436	1749	2238		1761	897	312	61.6		661
260	1568		1159	1496	1944		1595	798	244	19.6		601
250	1417		939	1248	1603		1389	693	188			505
240	1250		765	1002	1271		1135	589	138			381
230	1089		636	811	1012		840	492	101			237
220	918		542	652	760		475	405	73.0			121
210	755		472	530	584		150	314	49.5			57.1
200	612		419	443	462			217	17.1			
190	495		377	381	377			120				
180	406		341	336	314			12.4				
170	348		310	290	266							
160	306		280	268	227							
150	265		248	242	195							
140	222		208	216	171							
130	195		177	184	156							
120	184		167	168	146							
110	84.9		76.1	97.2	44.7							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 5 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,P,K	4	4	3	3	3	A6	A6	6	6	6	56	8
HMIN	109	109	109	108	107	109	197	189	198	238	253	187
SCAT	57.4	55.9	50.4	44.2	43.5	44.2	58.9	45.2	56.5	47.1	51.4	41.1
HMAX,F	308	318	317	309	301	291	313	304	346	363	384	275
HMAX,H	1828	1967	2004	1970	1750	1502	1228	844	733	586	621	594
KM												
390											875	
380											874	
370										875	860	
360										874	828	
350									875	858	782	
340									872	821	718	
330									857	768	632	
320		2096	2294				1555		827	690	527	
310	1907	2084	2282	2430	2430		1555	1341	783	595	405	
300	1898	2040	2227	2410	2430	2161	1538	1338	729	492	292	
290	1861	1956	2122	2340	2389	2160	1498	1307	659	370	191	
280	1795	1850	1977	2217	2280	2126	1434	1244	583	244	120	1143
270	1698	1704	1791	2047	2103	2037	1348	1150	505	149	72.2	1139
260	1574	1528	1576	1827	1879	1884	1242	1018	426	86.9	41.3	1106
250	1425	1329	1348	1571	1605	1600	1118	857	346	51.7		1039
240	1266	1118	1102	1285	1309	1471	981	676	264	12.4		935
230	1110	922	904	1046	1048	1247	829	466	188			782
220	941	748	740	803	765	950	647	260	117			556
210	786	618	608	614	554	694	390	131	64.4			292
200	654	528	509	482	410	465	90.5	66.8	12.4			96.1
190	544	461	436	395	323	290		12.4				35.0
180	458	408	378	334	267	200						
170	387	361	332	290	221	151						
160	332	320	291	262	183	119						
150	289	282	255	218	151	98.0						
140	250	248	221	184	133	86.2						
130	215	214	187	160	123	80.1						
120	189	189	169	151	117	75.3						
110	124	84.9	110	123	111	61.1						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 6 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
α_{KP}	8	8		8	8	9	9	9	9	9	F9	F9
HM1N	108 107	109	107	109	109	108	225	246	264	258	288	
SCAT	57.1	56.9	72.8	67.7	55.6	75.0	54.1	54.1	48.3	64.1	51.7	
HMAXF	336	320	350	376	302	333	332	365	404	401	440	
SHMAX	2307	1986	2086	2236	1950	1583	1269	860	880	1356	1046	
KM												
440												1303
430												1291
420												1255
410										1240	1555	1186
400										1238	1555	1104
390										1213	1543	1006
380				1907					1162	1512	901	
370				1903					1215	1082	1462	787
360			1741	1881				1213	982	1388	668	
350			1741	1838				1192	866	1300	546	
340	2294		1733	1773		1446	1786	1151	732	1194	417	
330	2288		1708	1688		1446	1785	1094	573	1076	299	
320	2249	2032	1665	1583		1435	1763	1006	407	939	188	
310	2176	2017	1598	1458	2294	1412	1711	889	270	776	109	
300	2061	1970	1522	1316	2292	1376	1625	746	171	599	58.7	
290	1919	1890	1434	1177	2265	1323	1517	575	106	412	12.4	
280	1747	1784	1337	1037	2200	1257	1371	379	379	65.7	236	
270	1557	1638	1230	858	2086	1184	1187	222	36.8	96.1		
260	1352	1476	1109	776	1946	1102	973	114		25.6		
250	1166	1305	991	671	1782	998	719	42.5				
240	994	1138	870	582	1593	883	417					
230	846	969	758	513	1382	762	117					
220	729	810	657	456	1133	638						
210	633	680	568	410	868	520						
200	553	579	490	371	621	411						
190	483	493	424	337	436	320						
180	420	421	367	303	322	246						
170	365	363	318	270	255	186						
160	317	316	278	236	215	165						
150	279	277	245	201	184	119						
140	245	242	215	174	159	103						
130	212	213	188	158	142	93.9						
120	188	191	171	150	132	88.3						
110	138	159	68.6	97.4	78.9	74.5						

ELECTRON DENSITY

RAMEY AFB: PUERTO RICO 60 W 9 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
ΔKP	4			4								
Hmin	108	109	109	108	84	5	A5	5		4	4	4
ΔCAT	63.4	52.4	50.8	54.5		110	202	211	240	259	267	247
HMAXF	312	323	312	313		58.9	52.8	45.1	76.6	48.4	45.9	60.1
ΔHMAX	1752	1789	1705	1706		312	328	330	374	363	376	375
KM						1239	890	704	818	520	509	581
380									875		754	754
370									874	794	752	753
360									868	793	735	743
350									854	779	701	723
340									833	748	655	693
330		1846					1228	1072	806	699	594	654
320	1727	1844	1984	1907		1361	1220	1060	773	637	516	596
310	1726	1816	1883	1905		1361	1192	1016	725	556	425	517
300	1710	1744	1955	1879		1328	1141	951	662	459	314	425
290	1673	1646	1884	1821		1295	1070	873	586	340	196	313
280	1610	1522	1778	1722		1244	969	768	490	213	105	209
270	1539	1374	1640	1597		1168	841	635	384	112	38.7	123
260	1434	1217	1457	1452		1080	698	498	267	12.4		65.9
250	1309	1067	1241	1282		974	553	347	142			19.9
240	1172	913	1099			853	405	212	12.4			
230	1014	771	839	894		726	249	113				
220	852	658	655	704		601	125	56.6				
210	712	567	531	556		493	57.5					
200	587	496	445	450		396						
190	489	443	392	379		313						
180	417	400	348	328		244						
170	365	351	307	298		187						
160	325	327	273	253		149						
150	291	292	241	220		124						
140	258	253	190	189		105						
130	221	216	160	162		92.7						
120	191	191	151	149		84.9						
110	150	103	74.1	113		12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 10 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₁ KP	A1	A1	A1	A1	A1	A3	A3	A3	A4	4	4	4
HMIN									204	228	288	258
SCAT									60±8	60±7	71±4	50±0
HMAXF									336	378	412	375
SHMAX									688	527	522	352
KM												
420											608	
410											607	
400											603	
390											593	
380										608	576	508
370										605	557	507
360										595	534	497
350										576	496	477
340								875	548	439	448	
330								873	514	368	406	
320								860	471	290	352	
310								835	420	201	289	
300								799	363	95±4	223	
290								752	305	24±6	158	
280								685	246		98±9	
270								600	190		56±3	
260								498	131		12±4	
250								374	82±3			
240								248	51±8			
230								145	12±4			
220								79±0				
210								40±0				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO											
60 W 13 OCT 1960											
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000 1100
Q ₁ KP	1	1	1	1	1	1	1	1	1	1	B1 B1
HMIN	220	209	209	202	254	280	208	107	110	106	
SCAT	36.3	37.1	47.1	48.1	59.3	48.2	41.6	27.6	56.6	43.3	
HMAXF	309	294	297	300	380	381	298	246	281	280	
SHMAX	306	286	276	168	183	152	177	400	891	1088	
KM											
390					219	229					
380					219	229					
370					217	226					
360					212	218					
350					204	204					
340					193	186					
330					179	164					
320					161	136					
310	608			262	142	108					
300	597	573	477	262	122	78.7	310				
290	562	572	474	259	103	49.4	307	1084	1446		
280	506	554	461	251	82.4		295	1084	1446		
270	431	517	437	236	61.1		274	1075	1426		
260	327	457	407	218	40.0		245	1048	1368		
250	198	368	355	191			204	834	1008	1269	
240	105	251	275	156			155	823	948	1131	
230	53.3	136	157	115			103	760	859	979	
220		68.3	71.4	73.5			59.0	647	748	812	
210		12.4	12.4	43.3			12.4	485	618	646	
200								334	489	508	
190								223	371	413	
180								145	275	344	
170								100	208	284	
160								80.1	160	233	
150								70.8	131	189	
140								67.6	118	158	
130								64.4	109	142	
120								61.2	102	134	
110								43.9	12.4	122	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO								60 W		13 OCT 1960		
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₁ KP	1	A1		A1	A1	A1	A2	A2	2	2	2	1
HMIN	108	109						206	197	231	258	239
SCAT	50.0	60.6						54.7	43.4	82.9	50.1	49.4
HMAXF	303	318						338	315	399	381	350
SHMAX	1708	2014						928	624	817	589	545
KM												
400										754		
390										752	834	
380										744	834	
370										731	823	
360										711	796	
350										685	749	834
340								1240		655	690	826
330								1233		621	620	800
320		2032						1206	1004	580	533	757
310	1907	2024						1157	1001	531	430	698
300	1905	1989						1089	973	474	317	619
290	1874	1927						999	918	409	204	511
280	1805	1836						888	897	338	115	382
270	1691	1721						753	736	256	63.1	240
260	1548	1574						599	609	175	12.4	133
250	1376	1410						439	457	106		67.8
240	1185	1217						275	302	59.3		12.4
230	1004	1013						145	182			
220	858	846						74.0	107			
210	738	701						27.5	60.4			
200	638	588							19.3			
190	551	503										
180	471	440										
170	401	389										
160	342	330										
150	286	301										
140	247	273										
130	270	238										
120	204	208										
110	143	84.9										

ELECTRON DENSITY

RAYE AFB, PUERTO RICO							60 W			14 OCT 1960		
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q ₁ KP	1	1	1	1	1	1	1	1	0	0	0	0
HMIN	218	206	201	199	289	277	250	198	110	111	109	108
SCAT	41.1	34.9	41.2	55.9	52.2	60.1	57.6	36.8	47.2	53.2	51.2	58.7
HMAX	317	286	288	299	392	397	345	270	271	288	300	311
SHMAX	420	317	289	203	184	200	205	349	834	1298	1668	2094
KM												
400					262	251						
390					262	250						
380					259	246						
370					250	238						
360					237	227						
350					221	216	286					
340					198	196	285					
330					168	172	281					
320	754				134	143	273					2260
310	749				100	110	260					2260
300	723				286	64.5	80.6	245			1969	2239
290	674	679	540	284	12.4	53.1	225		754	1050	1555	1951
280	603	674	535	277		17.5	195		754	1050	1546	1893
270	505	645	513	266			158	754	1049	1509	1799	1989
260	381	589	481	250			112	740	1035	1444	1673	1831
250	237	499	423	230			12.4	698	994	1350	1505	1627
240	128	373	338	205				631	929	1228	1310	1390
230	60.0	210	231	172				510	851	1087	1082	1167
220	12.4	96.3	120	131				336	759	915	867	940
210		42.3	57.1	74.2				162	650	731	695	763
200				12.4				32.2	540	571	564	618
190									442	450	468	506
180									357	361	398	427
170									282	296	342	371
160									224	250	297	328
150									183	214	257	290
140									154	186	223	252
130									129	161	195	215
120									114	140	172	192
110									12.4		84.9	151

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO							60 W			14 OCT 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
Q ₁ KP	0	0	0	0	0	0	A1	A1	1	1	1	2	
HMIN	106	108	108	107	109			208	209	199	237	246	229
SCAT	50.7	60.5	54.4	57.9	63.6			53.3	49.1	55.5	51.6	57.2	54.6
HMAXF	306	317	314	324	327			331	325	319	359	364	360
SHMAX	1898	1977	1817	1910	1805			1165	966	714	604	608	480
KM													
370												834	
360												833	
350												828	821 679
340								1612				806	797 679
330				1984	1786			1611	1446			766	761 673
320		2000	1907	1982	1780			1595	1442	960		715	712 655
310	2161	1993	1904	1955	1752			1550	1410	954		649	643 627
300	2153	1960	1877	1896	1703			1478	1349	932		570	547 590
290	2108	1897	1817	1806	1627			1381	1255	892		478	431 533
280	2019	1808	1714	1692	1537			1248	1139	839		371	311 457
270	1893	1692	1591	1551	1420			1090	975	772		265	175 367
260	1718	1553	1444	1387	1289			894	793	685		164	93.4 269
250	1509	1399	1285	1213	1162			677	592	583		92.2	42.5 164
240	1287	1232	1129	1039	1016			445	367	467		36.8	82.9
230	1067	1063	958	862	857			254	179	332			12.4
220	889	881	807	710	710			104	81.6	192			
210	733	725	681	578	582			26.9	12.4	82.2			
200	608	588	577	479	471								
190	513	478	493	408	374					12.4			
180	443	403	424	351	298								
170	386	351	368	302	238								
160	339	311	321	261	197								
150	298	277	282	224	167								
140	262	240	247	187	143								
130	233	207	215	160	126								
120	211	189	191	151	118								
110	162	109	150	122	90.8								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO											60 W	15 OCT 1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q ₁ KP	2	2	2	2	2	3	3	3	4	4	4	4
HMIN	238	220	206	247	240	249	206	120	105	105	106	108
SCAT	41.5	39.3	40.3	48.6	44.3	51.5	43.8	35.7	40.2	58.0	42.0	50.2
HMAXF	335	322	296	346	341	360	294	255	274	289	289	300
SHMAX	351	326	281	225	210	214	179	395	912	1381	1436	1802
KM												
370						298						
360						298						
350				335	335	295						
340				313	335	286						
330	608	573		323	330	270						
320	589	573		307	317	251						
310	553	560		284	293	226					2128	
300	502	527	524	253	263	197	310				2128	
290	430	477	521	215	225	164	309			1612	1907	2106
280	343	408	504	174	182	129	302		1328	1602	1887	2042
270	254	329	476	133	138	92.7	286		1325	1568	1813	1932
260	164	247	422	87.9	93.1	57.8	264	679	1288	1507	1677	1789
250	79.5	163	348	35.0	51.2	4.9	232	676	1205	1441	1497	1598
240	22.3	89.4	257				187	649	1092	1333	1294	1380
230		50.8	150				136	595	931	1172	1061	1157
220		73.9					77.5	516	752	991	854	936
210		28.3					28.3	419	579	788	679	757
200								314	442	607	539	611
190								219	347	471	448	500
180								151	279	366	384	425
170								109	227	293	330	365
160								86.3	187	241	285	318
150								73.2	155	198	246	279
140								66.0	133	165	212	242
130								59.4	116	143	185	210
120								40.2	106	136	168	186
110									97.8	128	142	133

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO											60 W	15 OCT 1960
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₁ KP	4	A4	4	4	54	53	3	3	2	2	2	2
HMIN	107	111	110	108	108		219	184	197	260	270	231
SCAT	56.8	51.8	58.1	66.5	63.0		55.9	53.6	57.8	54.8	49.4	47.3
HMAXF	312	317	333	354	339		338	327	321	388	382	336
SHMAX	1839	1796	1954	2228	1948		1676	1325	864	608	628	599
KM												
390										794	960	
380										789	960	
370										772	947	
360										741	913	
350										699	861	
340												
330				1907	1963	1907				641	788	949
320				1905	1921	1897				2265	1727	1050
310	1907	1907	1882	1850	1863					2217	1719	1049
300	1906	1898	1831	1769	1805					2130	1684	1040
290	1887	1855	1745	1658	1713					2017	1612	1015
280	1838	1775	1633	1530	1604					1857	1524	971
270	1753	1656	1500	1391	1482					1661	1396	916
260	1640	1510	1355	1242	1349					1407	1240	847
250	1506	1345	1193	1102	1210					1119	1058	768
240	1350	1185	1033	955	1072					781	870	684
230	1186	1032	882	877	913					422	677	593
220	1029	884	755	711	752					159	490	498
210	873	747	650	613	603					12.4	327	385
200	738	634	565	526	483					191	248	
190	618	549	497	452	388					95.7	66.3	
180	521	479	443	386	317					45.1		
170	441	419	396	341	261							
160	377	365	352	285	217							
150	327	310	311	247	181							
140	284	277	274	213	153							
130	244	232	243	185	133							
120	209	197	208	164	123							
110	191	184	184	151	116							
100	172		12.4	98.4	78.1							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO											60 W	16 OCT 1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q ₁ KP	2	2	2	2	2	1	1	R1	3	3	3	1
HMIN	218	228	213	190	219	235	241	111	109	108	107	106
SCAT	38.8	36.0	39.4	45.3	52.5	51.8	49.2	34.9	41.2	43.3	51.2	58.0
HMAXF	317	316	293	284	317	339	332	265	267	280	290	314
SHMAX	464	379	336	235	186	143	162	509	922	1335	1730	2026
KM												
340						203	251					
330						202	251					
320	854	754			274	196	247				2144	
310	848	748			273	186	238				2142	
300	814	715	679		267	174	224				2112	
290	757	654	678	389	255	158	206			2096	2051	
280	663	558	661	388	241	138	180			1907	2076	1949
270	549	444	623	380	220	115	147	854	1393	1882	2011	1828
260	409	306	563	362	194	90.9	111	850	1382	1807	1913	1676
250	255	157	462	136	162	66.0	68.6	814	1330	1676	1775	1486
240	135	72.7	307	297	121	35.0		747	1244	1499	1597	1288
230	66.7	21.2	155	248	71.9			643	1108	1278	1397	1076
220	12.4		55.8	188	12.4			526	927	973	1195	906
210				122				406	724	744	980	752
200				60.5				296	546	565	757	624
190				4.1				210	406	436	590	515
180								145	302	347	448	427
170								106	230	287	354	359
160								83.3	180	239	287	308
150								70.9	147	202	243	264
140								67.4	121	169	209	224
130								63.9	108	141	170	184
120								60.3	101	133	153	169
110									65.5	97.2	137	128

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO											60 W	16 OCT 1960
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₁ KP	1	1	0	0	0	52	2	2	3	3	3	1
HMIN	108	106	107	109	109		208	188	213	261	267	257
SCAT	56.4	52.6	50.4	56.4	47.4		52.4	55.9	54.4	45.5	40.2	45.5
HMAXF	313	320	314	322	310		308	320	345	478	357	349
SHMAX	1998	2103	1949	2000	1572		1065	869	591	507	478	490
KM												
380										754		
370										749		
360										725	875	
350												
340										754	683	869
330										753	623	838
320	2161	2243	2294	2160	1907					1096	741	552
310	2159	2222	2290	2137	1907					1096	716	474
300	2133	2159	2251	2081	1885					1555	1086	677
290	2073	2056	2167	1986	1822					1547	1059	626
280	1975	1912	2036	1866	1705					1511	1013	568
270	1851	1733	1860	1706	1558					1447	952	501
260	1688	1538	1651	1519	1387					1349	874	427
250	1492	1334	1390	1311	1213					1231	782	347
240	1281	1162	1115	1115	1046					1086	675	260
230	1033	988	902	911	859					914	559	172
220	893	830	724	726	696					697	438	101

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

19 OCT 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	A4	4	2	2	2	2	2	2	2	2	A2	
HMIN	237	200	205	203	200	187	199	109	107	107	108	
SCAT	35.6	28.8	47.1	56.1	62.6	48.2	39.9	44.0	46.5	46.5	61.5	
HMAXF	321	279	314	322	319	298	269	268	285	294	320	
SHMAX	334	253	308	312	250	208	386	806	1272	1614	2512	
KM												
320	679			417							2680	
310	679		469	417	310						2680	
300	664		468	412	309						2661	
290	621		459	401	303	310				2032	2606	
280	553		438	383	294	308			1669	2027	2509	
270	458	608	407	362	281	299			1664	1983	2385	
260	341	597	367	328	267	284	794	1096	1626	1890	2226	
250	197	550	316	286	245	263	783	1087	1549	1750	2027	
240	90.5	468	260	238	216	234	748	1051	1437	1569	1777	
230	35.0	352	196	184	180	198	693	984	1280	1351	1493	
220		221	130	119	139	156	593	895	1067	1161	1207	
210		117	70.6	69.3	94.4	115	442	790	850	952	957	
200		61.2	33.1	40.8	54.3	76.3	242	668	674	763	749	
190		4.1				48.5	43.8	540	531	604	588	
180						12.4		425	420	477	478	
170								333	346	378	406	
160								256	293	312	349	
150								196	250	261	306	
140								158	214	219	268	
130								132	183	189	230	
120								111	157	158	199	
110								99.4	135	149	183	
								49.0	95.2	121	98.9	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

19 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	2	2	A2	2	2	B3	3	3	1	1	1	3
HMIN	110	108		107	108		210	189	203	209	211	206
SCAT	52.0	49.3		49.8	56.6		43.1	44.1	44.6	44.6	45.4	44.9
HMAXF	303	304		304	312		312	312	309	319	315	302
SHMAX	2001	1900		1811	1738		996	855	690	598	522	441
KM												
320					1907		1654	1341		960	865	
310	2379	2294		2294	1906		1653	1340	1143	950	862	745
300	2376	2291		2289	1886		1623	1316	1132	916	842	744
290	2341	2251		2247	1837		1546	1257	1091	859	798	731
280	2256	2163		2157	1752		1423	1162	1024	776	737	698
270	2139	2028		2013	1638		1261	1036	927	670	652	649
260	1968	1845		1834	1502		1077	880	794	551	543	578
250	1756	1621		1633	1353		847	707	637	406	403	483
240	1497	1377		1375	1194		588	526	441	253	228	367
230	1235	1153		1024	1026		319	350	244	134	115	228
220	1011	918		775	850		111	197	118	66.8	56.3	101
210	799	729		591	680			108	53.2	12.4		43.3
200	631	571		465	542			58.6				
190	500	461		373	415			4.5				
180	411	389		307	322							
170	349	336		261	257							
160	300	293		226	211							
150	258	251		194	176							
140	218	214		157	150							
130	194	194		141	129							
120	182	183		134	118							
110	12.4	127		124	97.2							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

20 OCT 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	3	3	2	2	2	3	3	53	2	2	2	3
HMIN	226	230	209	204	236	262	259		109	109	109	108
SCAT	42.8	41.2	43.9	43.5	48.9	59.0	52.2		40.1	49.3	42.9	57.0
HMAXF	317	311	299	291	334	379	360		264	289	282	308
SHMAX	334	286	270	186	146	144	151		901	1317	1376	1821
KM												
380						179						
370						178						
360						174	219					
350						168	217					
340						169	211					
330						218	148	201				
320	573	532			214	134	187					
310	569	532			205	118	171				2016	
300	551	523	477	323	192	99.7	147				2006	
290	516	497	472	323	175	81.7	117				1640	1846
280	467	458	455	318	152	63.4	87.0				1626	1845
270	397	398	426	304	126	42.8	55.7				1393	1578
260	318	317	384	286	98.9						1350	1382
250	228	223	323	254	70.7						1263	1231
240	123	104	234	209	38.8						1140	1042
230	56.9	12.4	138	156							976	844
220			68.3	98.2							776	680
210			12.4	54.1							571	549
200											404	441
190											293	360
180											233	297
170											190	244
160											155	204
150											132	175
140											116	152
130											104	135
120											68.6	68.6
110											110	133

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

20 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	3	3	2	2	2	3	3	3	3	3	3	1
HMIN	109	105	106	109	108	110	199	189	209	248	260	224
SCAT	46.7	49.3	54.0	54.2	56.5	51.7	51.1	41.8	56.8	47.4	36.8	52.4
HMAXF	307	305	310	309	311	308	319	305	323	352	343	327
SHMAX	1851	1863	2001	1854	1641	1354	1085	713	562	422	302	337
KM												
360											643	
350											642	573
340											632	572
330											754	608
320											754	569
310	2294	2277	2277	2144	1785	1669	1612	1143	744	516	455	480
300	2280	2272	2258	2129	1767	1657	1567	1138	722	447	382	458
290	2216	2227	2201	2077	1722	1615	1491	1104	689	370	299	431
280	2095	2130	2098	1984	1644	1538	1394	1035	647	282	211	394
270	1929	1987	1961	1862	1540	1428	1245	939	585	193	111	344
260	1708	1809	1794	1701	1412	1298	1032	821	510	112	12.4	282
250	1463	1587	1533	1513	1270	1121	771	690	421	28.3		215
240	1204	1326	1369	1310	1130	953	493	541	322			132
230	960	1049	1116	1072	967	790	277	387	218			58.2
220	761	825	895	861	806	627	147	233	106			
210	609	641	714	672	655	479	71.9	121	12.4			
200	400	510	571	529	529	360	12.4	65.1				
190	424	426	464	422	414	267						
180	368	367	384	336	321	198						
170	323	321	325	275	254	149						
160	285	284	278	227	210	118						
150	250	252	240	189	177	96.9						
140	213	221	207	156	152	83.5						
130	182	192	181	140	130	78.7						
120	169	173	168	132	118	74.0						
110	92.8	149	144	63.9	71.6	12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 21 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OWP	0	0	52	2	2	53	3	3	0	0	0	20
HMP	109	107		101	107		197	199	208	258	249	240
SCAT	46.2	55.4		52.1	69.9		35.6	44.2	62.3	44.4	43.1	41.6
HMAXF	2.4	310		309	306		286	297	361	353	332	325
HMAXH	1805	2030		1902	1749		803	559	443	336	303	300
KM												
360										540		
350									508	540		
340									508	529		
330									504	503	540	532
320									493	464	529	530
310		2277		2294	2161				476	413	504	514
300	2536	2259		2277	2153			917	450	352	466	484
290	2531	2204		2220	2105		1626	911	420	284	410	438
280	2677	2109		2113	2011		1616	882	385	208	334	373
270	2361	1987		1971	1880		1545	829	345	130	248	299
260	2196	1817		1792	1700		1412	753	303	54.6	133	215
250	1958	1613		1578	1478		1219	657	258			117
240	1671	1392		1326	1239		972	54	208			
230	1342	1131		1018	1038		661	416	155			12.4
220	993	914		791	807		336	258	92.7			
210	737	765		613	613		138	108	26.9			
200	566	599		484	474		40.7	12.4				
190	456	486		391	374							
180	384	403		322	300							
170	332	338		271	247							
160	289	290		232	204							
150	248	251		204	174							
140	210	216		176	148							
130	179	183		153	127							
120	168	169		137	118							
110	84.4	117		127	92.5							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 OCT 1960

[illegible]

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO												60 W	23 OCT 1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	
O ₁ KP	0	0	1	1	0	0	0	0	0	0	0	0	1
HMIN	230	219	210	193	204	252	246	199	109	109	108	109	
SCAT	32.3	27.8	27.3	23.6	36.6	62.1	46.5	33.6	34.0	47.3	41.4	46.6	
HMAXF	312	284	260	241	270	364	334	275	251	279	275	294	
SHMAX	219	183	163	82	69	78	78	297	605	1071	1202	1502	
KM													
370						97.2							
360						97.1							
350						96.0							
340						93.6	127						
330						89.9	127						
320	477					85.0	124						
310	476					78.3	119						
300	460					71.2	110						1907
290	421	477				62.1	98.8						1903
280	360	474			143	52.4	84.2	643		1433	1786	1863	
270	280	446	446		143	42.8	67.9	640		1421	1779	1778	
260	184	388	434		141	20.6	50.3	613	1096	1377	1727	1655	
250	98.7	296	302	262	133		17.4	558	1095	1303	1621	1479	
240	53.0	175	310	262	119			473	1064	1206	1470	1272	
230		80.4	212	248	102			361	990	1048	1241	1023	
220		12.4	88.1	211	75.7			234	855	835	953	818	
210					146	45.6		106	664	632	693	646	
200				59.5				12.4	458	491	507	525	
190									312	387	394	442	
180									227	320	329	378	
170									172	270	288	323	
160									133	227	252	275	
150									115	190	211	232	
140									108	159	173	196	
130									103	140	156	175	
120									98.2	131	147	163	
110									62.0	65.5	67.3	58.9	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO												60 W	23 OCT 1960
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
O ₁ KP	1	1	2	2	A2	1	1	1	0	0	0	0	1
HMIN	109	110	109	109	109	109	209	200	199	283	283	280	
SCAT	38.6	43.3	54.7	55.2	56.8	42.5	39.4	38.2	50.2	45.2	50.7	52.6	
HMAXF	280	283	294	292	305	290	280	284	312	381	383	376	
SHMAX	1281	1368	1616	1348	1374	1075	656	419	315	248	256	256	
KM													
390											389	382	
380											389	382	382
370											383	375	381
360											368	362	373
350											343	341	359
340											309	314	340
330											269	275	313
320										446	224	230	271
310					1542					446	175	177	220
300				1891	1626	1539	1542			440	121	115	164
290			1907	1882	1625	1516	1542	1341	794	69.2	58.5	92.2	
280	1891	1904	1842	1606	1468	1520	1341	792	401				
270	1863	1862	1767	1560	1389	1455	1319	769	369				
260	1767	1766	1668	1484	1290	1348	1254	719	329				
250	1607	1625	1532	1388	1178	1197	1150	641	284				
240	1398	1429	1363	1261	1048	1017	986	540	231				
230	1112	1163	1163	1095	889	827	741	421	176				
220	854	885	945	907	725	643	377	277	120				
210	650	664	729	705	583	470	55.6	131	69.1				
200	506	509	552	530	463	349		12.4	12.4				
190	414	414	429	386	363	257							
180	354	354	352	293	291	197							
170	308	312	301	233	236	156							
160	268	277	263	192	196	127							
150	231	238	231	167	165	107							
140	197	200	202	154	141	91.7							
130	176	177	170	144	125	81.7							
120	167	166	166	134	117	75.8							
110	74.1	12.4	92.8	73.0	82.9	44.7							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO												60 W	24 OCT 1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	
O ₁ KP	1	1	1	1	2	2	2	2	4	4	4	6	
HMIN	239	209	201	199	198	253	270	199	111	110	109	108	
SCAT	42.1	24.6	23.8	31.1	56.5	69.5	53.8	31.1	36.4	48.4	53.7	47.9	
HMAXF	334	270	255	250	288	373	365	269	260	278	296	298	
SHMAX	229	171	123	81	68	80	83	246	604	900	1363	1490	
KM													
380						90.4							
370						90.4	119						
360						89.6	119						
350						88.0	117						
340	403					85.4	113						
330	402					81.5	106						
320	392					77.1	99.5						
310	371					72.6	89.4						
300	340					66.1	76.3						
290	294									1542	1861		
280	234					97.2	58.7	61.1		1536	1847		
270	155	508				96.8	50.1	44.5		1506	1793		
260	92.2	487	382	214	91.3	17.7			573	1004	1143	1506	1793
250	52.9	426	278	214	86.3				519	985	1050	1270	1387
240	6.1	313	347	207	80.2				449	928	967	1117	1151
230		157	279	191	74.1				350	832	856	957	917
220		68.9	170	166	65.3				227	697	726	795	716
210		12.4	67.0	112	51.7				105	530	592	651	569
200									379	477	534	465	
190									279	381	442	393	
180									207	307	370	342	
170									156	250	315	303	
160									120	202	269	268	
150									108	163	231	232	
140									104	143	196	198	
130									98.9	136	174	176	
120									86.6	129	164	166	
110										12.4	78.9	127	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO							60 W			24 OCT 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
O ₁ KP	6	6	4	A4	A4	A2	2	2	2	2	2	3	
HMIN	109	107	109				201	199	250	299	318	269	
SCAT	42.9	42.4	57.3				51.3	48.8	50.9	60.9	52.6	47.4	
HMAXF	294	290	326				310	307	361	434	419	369	
SHMAX	1652	1729	1885				984	508	412	432	385	399	
KM													
440										508			
430										507			
420										501	565		
410										488	561		
400										467	546		
390										441	521		
380										407	488		
370										573	367	440	643
360										573	321	376	637
350										566	273	302	617
340										548	223	215	585
330				2000						518	171	130	538
320				1995						479	117	34.9	464
310				1963			1446	754	428	70.9		370	
300	2294			1899			1433	751	369	12.4		264	
290	2288	2430		1806			1393	732	306			169	
280	2231	2399		1684			1323	696	241			84.9	
270	2110	2350		1520			1236	646	173			12.4	
260	1935	2139		1349			1107	581	102				
250	1684	1899		1166			944	505	12.4				
240	1377	1611		959			746	414					
230	1050	1297		779			523	315					
220	787	967		630			318	195					
210	594	726		511			128	96.6					
200	472	548		431				12.4					
190	396	432		377									
180	344	363		377									
170	304	316		290									
160	269	278		254									
150	237	240		223									
140	206	205		190									
130	182	179		164									
120	168	169		151									
110	74.1	140		78.9									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 25 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Ω_{KP}	8	8		7	7	57		5	N5	N5		
HMIN	108	108	110	107	107	109	189	190	219	283	280	270
SCAT	41.8	51.3	53.2	56.4	51.2	52.8	46.3	54.5	50.7	54.0	37.6	43.4
HMAXF	328	318	346	337	318	308	315	315	345	400	354	352
SHMAX	2138	2417	2584	2801	2760	2502	1223	785	458	509	352	377

[illegible]

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 26 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q+KP	6	6	A4		4	4	A4	4	5	5	5	5
HMIN	105	107		107	111	199	199	199	210	238	208	208
SCAT	55.1	47.3		44.7	56.3	55.4	38.5	53.1	39.0	36.4	43.9	46.9
HMAXF	304	298		285	289	299	299	317	302	320	301	350
SHMAX	1928	1887		1726	1622	1035	628	645	366	311	288	265

[illegible]

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 OCT 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _{KP}	5	5	3	3	3	5	5	5	4	4	4	5
HMIN	271	242	222	200	200	198	248	199	110	108	111	109
SCAT	42.9	42.7	31.3	38.6	46.6	55.0	47.7	39.2	36.7	45.3	41.1	45.3
HMAXF	367	331	294	271	275	285	340	266	268	275	273	276
SHMAX	250	270	221	194	138	66	92	239	747	1122	1195	1533
KM												
370	417											
360	414											
350	400						143					
340	375	477					143					
330	340	477					142					
320	291	469					137					
310	233	449					129					
300	172	420	508				117					
290	112	370	506			97.2	103					
280	63.9	306	482	389	240	97.0	85.6		1528	1741	2128	
270		224	432	389	239	95.3	67.1	508	1143	1523	1739	2118
260		133	357	381	234	92.0	48.9	505	1129	1487	1700	2060
250	58.0	261	359	222	87.1	12.4	486	1070	1412	1602	1945	
240		154	330	207	80.7		455	973	1316	1465	1789	
230		60.8	276	186	73.9		402	837	1155	1267	1573	
220			205	154	64.9		303	680	958	1015	1310	
210			119	109	52.0		158	528	755	780	1010	
200			12.4	12.4	12.4		12.4	408	580	599	771	
190								323	441	462	575	
180								258	351	368	431	
170								210	288	306	342	
160								173	239	264	285	
150								143	203	228	243	
140								123	174	198	208	
130								109	152	176	181	
120								101	136	156	168	
110								12.4	89.1		68.6	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _{KP}	5	5	A4	4	84	A5	5	5	5	5	5	6
HMIN	108	107		107	107		200	200	242	229	243	239
SCAT	44.8	58.8		63.0	53.6		37.2	43.8	54.7	42.1	44.5	55.9
HMAXF	279	292		312	304		282	283	354	326	342	353
SHMAX	1395	1602		1797	1697		874	493	381	268	259	328
KM												
360									524			446
350									523		417	446
340									515		417	441
330									498	446	410	428
320						1876			477	444	393	408
310						1876	2032		441	430	365	384
300		1786				1860	2028		394	402	326	349
290		1785				1820	1995	1669	875	337	363	278
280	1846	1766				1752	1927	1668	874	273	313	223
270	1829	1720				1668	1821	1627	855	202	256	163
260	1762	1647				1562	1681	1522	812	130	195	103
250	1658	1556				1425	1513	1362	749	65.8	135	53.6
240	1502	1429				1271	1330	1150	661	79.7		12.4
230	1306	1279				1082	1101	907	542			
220	1073	1090				898	881	655	388			
210	869	880				713	679	352	187			
200	693	685				561	514	12.4	12.4			
190	546	545				442	390					
180	436	435				353	297					
170	360	358				292	226					
160	306	306				248	178					
150	264	268				211	150					
140	229	236				178	126					
130	197	202				153	109					
120	174	176				137	102					
110	98.9	156				124	80.3					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 OCT 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _{KP}	6	6	5	5	5	5	5	5	5	5	5	5
HMIN	270	271	239	199	220	199	277	199	110	105	105	106
SCAT	44.6	40.4	35.1	35.2	31.2	35.5	64.8	40.4	45.6	37.0	37.1	44.1
HMAXF	359	365	318	269	288	261	383	280	262	253	274	285
SHMAX	245	246	234	180	160	73	123	288	761	767	1128	1371
KM												
390								152				
380								152				
370								150				
360	403	430						147				
350	399	417						141				
340	383	390						134				
330	359	351						127				
320	325	300	477					117				
310	282	240	471					104				
300	231	178	445					87.2				
290	172	110	400					65.5	540			
280	104	55.2	338			382		31.0	540			
270	12.4		262	389	348	161		531	1131			
260			177	383	304	161		505	1130	1240	1609	1643
250			90.6	361	232	157		463	1111	1238	1487	1512
240			12.4	324	139	147		403	1065	1202	1308	1326
230				269	66.7	132		324	994	1120	1127	1101
220				192	4.1	109		231	885	993	883	900
210				94.5		77.1		110	742	815	675	724
200				12.4		12.4		12.4	562	624	525	584
190									403	471	421	478
180									279	342	351	397
170									197	258	300	334
160									150	205	257	286
150									122	170	220	249
140									104	144	188	216
130									93.9	126	161	190
120									87.6	119	152	172
110									12.4	107	138	151

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _{KP}	5	5	54	A4	A4	S3	3	3	5	5	5	4
HMIN	106	106	109			109	200	219	199	240	270	288
SCAT	47.1	49.0	66.3			45.9	49.8	43.3	40.8	56.8	54.2	45.2
HMAXF	278	288	306			274	293	310	290	365	376	387
SHMAX	1368	1492	1579			1162	874	517	324	314	336	278
KM												
390												446
380											477	444
370										389	475	431
360										388	466	406
350										382	449	373
340										351	392	344
330										328	346	202
320												
310			1556					917		298	288	140
300			1552				1341	905	573	264	225	87.3
290		1876	1532				1340	869	573	228	149	26.9
280	1786	1865	1495			1786	1319	812	564	190	78.2	
270	1773	1816	1438			1782	1271	718	538	152	2.0	
260	1720	1722	1368			1744	1193	591	495	115		
250	1624	1599	1281			1663	1096	441	434	75.0		
240	1497	1434	1168			1537	957	265	358			
230	1319	1242	1042			1374	799	113	272			
220	1081	992	905			1127	614	12.4	175			
210	864	778	758			840	369		88.2			
200	681	601	622			545	71.4		12.4			
190	537	470	510			333						
180	425	384	419			210						
170	349	327	345			152						
160	299	285	283			120						
150	258	250	243			98.1						
140	221	214	209			83.5						
130	189	183	179			78.8						
120	172	169	167			74.1						
110	161	146	92.8			51.7						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 29 OCT 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Ω_{KFP}	5	5										
HMIN	105	106	A4	A4	A4							
SCAT	41.6	49.4				108	204	199	230	268	239	270
HMAXF	282	296				64.7	50.0	50.5	58.9	41.5	45.2	43.1
SHMAX	1583	1728				308	298	299	362	350	330	351
KM						1775	975	584	386	293	321	294
370									46.9			
360									46.9			524
350									46.4	540		524
340									452	532	540	515
330									432	509	540	491
320									407	471	533	457
310						2032			376	415	513	405
300		2144				2024	1500	906	338	337	479	334
290	2294	2136				1992	1491	900	293	243	432	248
280	2292	2087				1936	1453	876	245	137	366	147
270	2242	1990				1851	1378	837	198	28.3	285	40.2
260	2124	1859				1751	1283	775	152		197	
250	1966	1676				1621	1158	688	104		98.4	
240	1691	1444				1454	983	579	54.8		12.4	
230	1900	1180				1237	778	440				
220	1018	934				959	522	278				
210	782	733				671	262	123				
200	582	576				440	12.4	12.4				
190	456	469				299						
180	373	391				213						
170	318	332				161						
160	277	286				127						
150	239	247				106						
140	202	208				90.8						
130	178	181				80.9						
120	168	170				74.3						
110	148	154				69.9						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 30 OCT 1960

[illegible]

RAMEY AFB, PUERTO RICO 60 W 31 OCT 1960

RAMEY AFB, PUERTO RICO 60 W 31 OCT 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
HWP	3	2	4	4			4		4	4	5	
QKIP	200	218	208	198	198	276	242	199	109	106	108	108
SCAT	38.1	40.5	35.3	41.6	68.2	41.4	41.5	35.5	40.5	39.7	37.9	40.6
HMAXF	287	313	293	285	324	369	326	273	261	267	268	278
SMMAX	246	248	219	180	176	129	147	341	779	1014	1048	1278
KM												
370						219						
360						216						
350						207						
340						191						
330					198	169	262					
320		439			198	142	261					
310		438			196	112	253					
300		428	446		192	82.8	237					
290	477	402	466	329	186	57.7	215					
280	473	366	432	328	178	24.1	184	754				1727
270	453	316	400	318	167		144	753	1240	1555	1555	1708
260	418	253	351	300	155		99.2	728	1240	1545	1539	1630
250	364	184	279	274	140		56.4	677	1216	1487	1471	1506
240	290	108	190	231	122			582	1155	1377	1351	1340
230	197	60.4	108	173	101			430	1057	1218	1173	1144
220	112	12.4	59.6	108	76.0			943	118	996	950	948
210	55.2		12.4	59.9	51.0			104	740	746	747	755
200				12.4	12.4			12.4	555	554	584	620
190									377	418	467	515
180									158	332	380	431
170									184	275	312	365
160									141	229	262	307
150									115	192	224	260
140									96.8	165	194	218
130									91.4	138	174	187
120									86.0	121	162	170
110									43.8	101	98.4	125

RAMEY AFB, PUERTO RICO 60 W 31 OCT 1960

RAMEY AFB, PUERTO RICO 60 W 31 OCT 1960

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TABLES OF IONOSPHERIC DATA

Table 1

AUGUST 1960 - DECEMBER 1952

Table 2

Resolute Bay, Canada (74.7° N, 94.9° W)								August 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		5.6 30	280		100	1.80		2.90	
01		5.6 29	260		100	1.80		2.90	
02		5.6 29	260		105	1.80		2.90	
03		5.2 30	270	---	100	2.00		2.80	
04	(320)	5.3 29	250	3.5	110	2.10		2.90	
05	(400)	5.5 28	250	3.6	110	2.30		2.95	
06		400 5.3 30	245	3.7	110	2.50		2.75	
07		350 5.6 30	240	3.9	100	2.70		2.80	
08		415 5.4 28	220	4.0	100	2.80		2.75	
09		400 5.6 27	220	4.3	100	3.00		2.75	
10		400 5.6 25	210	4.4	100	3.00		2.75	
11		400 5.4 26	210	4.5	100	3.10		2.70	
12		410 5.6 26	210	4.5	100	3.10		2.70	
13		460 5.5 29	210	4.4	100	3.10		2.60	
14		420 5.6 29	200	4.5	100	3.10		2.60	
15		405 6.0 28	210	4.4	100	3.00		2.70	
16		400 5.8 27	220	4.4	100	3.00		2.70	
17		450 5.7 29	220	4.0	100	2.85		2.70	
18		400 5.6 29	235	4.0	110	2.70		2.80	
19		400 5.6 28	240	3.9	110	2.50		2.70	
20	---	5.8 29	270	---	100	2.30		2.80	
21	---	5.6 28	270	---	115	2.10		2.80	
22	---	5.6 29	280	---	105	2.00		2.90	
23		5.4 29	280		130	1.90		2.90	

Time: 90.0°W.

Sweep: 1.5 Mc to 20.0 Mc in 15 seconds.

Kiruna, Sweden (67.8° N, 20.3° E)								August 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		(5.4)	9	340			4.6	(2.6)	
01		(4.6)	9	340			4.2	(2.6)	
02		4.4	13	325			4.0	2.6	
03		4.3	21	325	---	---	3.0	2.6	
04	(440)	4.6	24	280	3.1	---	2.3	2.7	
05		450 5.0	23	250	3.6	120	2.4	2.6	
06		390 5.6	23	250	3.9	110	2.6	2.7	
07		410 5.8	24	240	4.3	110	2.8	2.75	
08		390 5.9	26	235	4.6	110	2.9	2.75	
09		365 6.0	30	225	4.6	110	3.0	2.8	
10		360 6.2	28	225	4.8	105	3.0	2.8	
11		365 6.5	29	215	4.8	105	3.1	2.8	
12		360 6.4	30	215	4.8	105	3.1	2.8	
13		370 6.4	30	220	4.7	105	3.1	2.8	
14		345 6.3	28	225	4.7	110	3.1	2.9	
15		370 6.2	27	225	4.6	110	3.0	2.8	
16		330 6.2	29	240	4.4	110	2.8	2.9	
17	---	6.0	27	250	4.2	115	2.7	2.9	
18	---	6.0	27	260	---	115	2.4	3.8	3.0
19	---	5.8	22	280	---	---	2.2	3.4	2.8
20		5.5	18	285	---	---	---	3.5	2.9
21		5.0	14	300	---	---	---	3.8	2.65
22		5.1	14	335			4.1	2.7	
23		(5.2)	7	320			4.0	(2.7)	

Time: 15.0°E.

Sweep: 0.8 Mc to 15.0 Mc in 30 seconds.

Table 3

Sodankylä, Finland (67.4° N, 26.6° E)								August 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		(5.0)	9	310			(4.1)	(2.70)	
01		(4.8)	8	325			(3.8)	(2.65)	
02		(4.4)	6	360	---	---	(3.4)	(2.50)	
03		(4.9)	7	325	---	---	(3.3)	(2.80)	
04		4.7	11	300	---	E	(3.0)	2.65	
05		5.0	16	265	3.3	---	1.80	(3.2)	2.80
06		5.3	17	250	---	120	2.40	(3.7)	2.70
07		5.6	18	240	4.1	120	2.70	(4.1)	2.65
08		6.1	20	235	4.2	115	2.90	(4.4)	2.00
09		6.2	21	225	4.6	110	3.05	(4.3)	2.75
10		6.3	23	225	4.7	110	3.25	(5.0)	2.75
11		6.7	25	220	4.8	110	3.30	(4.9)	2.80
12		6.8	26	220	4.8	115	3.30	(4.8)	2.80
13		6.7	27	220	4.8	110	3.30	(4.8)	2.80
14		6.7	27	220	4.8	110	3.30	(4.8)	2.85
15		6.6	24	220	---	110	3.20	(4.6)	2.85
16		6.6	20	230	---	115	3.10	(4.6)	2.85
17		6.4	27	240	---	115	2.90	(4.8)	2.90
18		6.1	26	245	---	120	2.70	(3.9)	2.95
19		5.9	29	260	---	125	2.30	(3.6)	2.90
20		5.8	21	275	---	E	3.6	2.85	
21		5.4	16	290	---	E	3.1	2.80	
22		(5.3)	9	295	---	---	3.3	(2.75)	
23		(5.0)	8	305	---	---	3.6	(2.65)	

Time: 30.0°E.

Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 5

Lycksele, Sweden (64.6° N, 18.8° E)								August 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs	(M3000)F2	
00		4.7	26	290	---	---	2.8	2.5	
01		4.4	26	310	---	---	3.2	2.5	
02		4.2	26	300	---	---	3.0	2.45	
03	---	4.3	26	305	---	105	1.50	2.8	2.45
04	(425)	4.5	25	270	3.1	---	1.80	3.0	2.5
05	(410)	5.0	24	250	3.6	100	2.20	4.0	2.6
06		435 5.3	26	240	4.0	100	2.50	4.8	2.65
07		440 5.7	25	235	4.4	100	2.70	4.8	2.7
08		375 6.0	27	220	4.6	100	3.00	4.5	2.7
09		345 6.4	27	225	4.8	100	3.20	5.0	2.7
10		380 6.6	28	210	4.9	100	3.30	4.8	2.7
11		340 6.8	28	215	4.9	100	3.40	4.6	2.7
12		335 6.8	28	210	5.0	100	3.40	5.0	2.7
13		335 6.8	30	210	4.9	100	3.25	4.6	2.7
14		360 6.8	29	215	4.8	100	3.20	4.8	2.7
15		335 6.7	30	220	4.8	100	3.00	4.8	2.8
16	(315)	6.7	30	230	4.6	100	3.00	4.0	2.8
17	---	6.5	31	240	4.4	105	2.70	4.0	2.8
18	---	6.5	31	250	---	105	2.40	3.8	2.8
19		6.3	29	260	---	100	2.10	3.6	2.8
20		5.6	29	265	---	105	1.60	3.5	2.75
21		5.4	28	270	---	110	1.40	3.2	2.6
22		4.8	27	280	---	---	---	2.8	2.6
23		4.8	26	290	---	---	---	3.2	2.55

Time: 15.0°E.

Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.

occasionally, 1.4 Mc to 16.0 Mc in 6 minutes, automatic operation.

Table 6

Nurmijärvi, Finland (60.5° N, 24.6° E)								August 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		(5.8)	4					---	
01		(5.6)	4					---	
02		(4.6)	4					---	
03		(4.5)	4					---	
04		(4.3)	7					(2.85)	
05		4.8	13		---			2.85	
06		5.5	16		3.7	2.15		2.85	
07		6.2	20		4.1	2.60		2.90	
08		6.4	22		4.4	2.90		2.90	
09		7.0	24		4.6	3.10		2.80	
10		7.0	28		4.8	---		2.90	
11		7.2	27		5.0	---		2.90	
12		7.5	25		5.0	---		2.85	
13		7.4	28		5.0	---		2.90	
14		7.4	30		4.9	---		2.90	
15		7.0	28		---	---		3.00	
16		6.8	31		---	---		2.95	
17		6.8	30		---	---		3.00	
18		7.0	27		---	2.60	2.7	3.00	
19		6.9	26		---	---		2.95	
20		7.1	14					3.00	
21		(6.9)	8					(2.80)	
22		(5.3)	2					---	
23		(5.9)	2					---	

Time: 30.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 1 minute.

Table 7

Upsala, Sweden (59.8° N, 17.6° E)

August 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	5.0	26	280		110	(0.85)	2.2	2.5
01	4.8	23	285		110	(0.80)	2.5	2.5
02	4.4	23	300		105	(0.70)	2.9	2.5
03	4.0	28	295		105	----	3.1	2.5
04	4.4	31	280		105	1.50	3.1	2.6
05	(410)	5.0	30	255	3.5	100	1.90	4.0
06	(355)	5.6	30	245	4.0	100	2.45	4.4
07	365	6.0	30	230	4.3	100	2.80	4.0
08	380	6.4	30	230	4.6	100	3.10	5.1
09	350	7.0	30	225	4.8	100	3.20	5.7
10	330	7.3	30	220	4.9	100	3.30	4.9
11	340	7.2	30	215	4.9	105	3.40	5.4
12	330	7.4	31	215	5.0	100	3.40	4.9
13	335	7.4	31	220	5.0	105	3.40	5.3
14	330	7.2	30	225	5.0	105	3.40	5.0
15	330	7.0	31	225	4.8	100	3.20	5.0
16	335	7.1	31	235	4.6	105	3.10	4.2
17	(325)	7.1	30	245	4.4	105	2.70	3.4
18	---	7.1	31	250	---	105	2.40	3.7
19	7.2	31	260		100	1.80	3.3	2.8
20	7.0	30	255		105	1.30	2.8	2.8
21	6.6	28	265		110	(1.15)		2.65
22	6.1	28	265		105	(0.90)		2.6
23	5.8	28	275		110	----		2.6

Time: 15.0°E.

Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.

Occasionally, 1.4 Mc to 17.0 Mc in 6 minutes, automatic operation.

Table 9

Inverness, Scotland (57.4° N, 4.2° W)

August 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	(4.8)	29	300				<1.3	2.60
01	>4.4	28	300				<1.0	2.60
02	>3.9	28	300				1.3	2.55
03	4.0	27	300				<1.1	2.60
04	3.8	25	300				1.3	2.65
05	---	4.3	28	270	---	120	1.85	2.80
06	(460)	5.1	29	250	3.7	120	2.40	2.90
07	(550)	5.6	29	240	4.0	120	2.70	2.85
08	(400)	6.4	27	230	4.2	110	3.05	3.1
09	(410)	6.6	27	220	>4.6	110	3.30	2.85
10	410	>6.8	28	225	4.8	110	3.50	3.6
11	390	7.0	30	220	>4.8	110	3.60	2.80
12	(400)	6.9	27	220	5.0	110	3.70	2.80
13	400	6.8	28	220	(5.1)	110	3.70	2.80
14	(450)	6.8	28	220	(4.9)	110	3.60	2.80
15	(450)	7.0	29	230	---	110	3.50	2.80
16	(380)	6.9	29	240	---	110	3.30	2.85
17	---	7.2	28	250		120	3.00	3.1
18	7.2	28	250		120	2.65	3.2	2.90
19	7.3	27	260		120	2.20	2.8	2.90
20	7.3	29	250		---		<2.3	2.90
21	>6.7	30	260				<1.6	2.80
22	>6.4	28	270				<1.6	2.80
23	5.6	29	280				<1.6	2.70

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 11

Slough, England (51.5° N, 0.6° W)

August 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	5.8	30	<285			<1.4	2.65
01	---	5.2	29	290			1.6	2.50
02	---	4.9	29	300			1.7	2.55
03	---	4.8	29	300			1.6	2.55
04	---	4.4	30	295			1.4	2.65
05	---	4.8	29	275	---	120	1.85	2.2
06	---	5.7	30	245	3.8	110	2.35	2.8
07	400	6.1	29	230	4.2	105	2.85	3.4
08	405	6.6	30	<220	4.6	105	3.15	3.8
09	310	7.2	30	<220	4.8	100	3.40	3.9
10	315	7.5	31	205	5.0	100	3.55	4.0
11	320	7.8	30	205	5.0	100	3.70	4.1
12	365	7.5	31	205	5.2	100	3.70	3.9
13	345	7.6	31	205	5.2	100	3.70	3.9
14	340	7.4	30	210	5.0	100	3.70	3.0
15	330	7.3	29	220	5.0	100	3.55	3.7
16	325	7.4	31	235	4.0	105	3.35	3.4
17	---	7.7	31	240	---	105	3.00	3.4
18	---	8.0	30	250	---	105	2.60	3.1
19	---	8.0	30	255	---	1.95	3.0	2.95
20	---	8.1	30	<250	---		(2.6)	2.90
21	---	7.3	29	235			(1.8)	2.80
22	---	6.6	30	<245			1.7	2.75
23	---	6.2	30	<255			1.6	2.60

Time: 0.0°.

Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 10

Churchill, Canada (58.8° N, 94.2° W)

August 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	4.6	26	300				5.0	----
01	5.1	27	300				5.0	----
02	4.3	27	300				4.3	----
03	4.0	27	300				3.8	----
04	4.0	25	330				2.6	----
05	---	4.1	27	300				----
06	6	<4.5	28	280	3.9	110	2.80	3.3
07	580	4.8	24	280	4.1	105	2.60	3.6
08	520	5.0	24	250	4.4	105	3.20	3.7
09	550	5.2	25	240	4.6	105	3.40	3.8
10	440	5.8	25	220	4.7	100	3.40	2.70
11	505	5.8	26	220	4.8	100	3.50	2.55
12	505	5.8	28	220	4.9	100	3.60	2.55
13	490	6.0	28	220	4.9	100	3.60	2.60
14	430	6.0	28	220	4.8	100	3.50	2.60
15	395	6.4	27	220	4.8	105	3.30	2.75
16	400	6.3	27	230	4.7	105	3.20	2.70
17	390	6.2	28	250	4.4	105	3.00	2.70
18	380	6.3	28	260	4.2	110	2.80	>3.1
19	---	5.7	28	310	---	---	3.5	(2.90)
20	---	5.2	30	320	---	---	3.8	----
21	---	5.2	29	300	---	---	4.8	----
22	---	5.0	26	300	---	---	7.3	----
23	---	4.8	29	310	---	---	5.4	----

Time: 90.0°W.

Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 12

De Bilt, Holland (52.1° N, 5.2° E)

August 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	5.7	31	290				2.3	2.65
01	5.1	31	295				2.3	2.60
02	4.8	31	300				3.1	2.60
03	4.6	31	290				2.9	2.65
04	---	4.4	30	280	---	E	2.2	2.75
05	(425)	5.2	29	250	3.4	115	2.0	2.3
06	370	5.9	30	240	3.9	105	2.6	3.3
07	295	6.3	29	220	4.5	100	3.0	3.6
08	320	7.2	28	215	4.8	100	3.3	4.0
09	315	7.4	29	210	5.1	100	3.5	4.2
10	330	7.6	29	210	5.2	100	3.6	4.3
11	300	7.9	29	200	5.2	100	3.7	4.0
12	330	7.7	28	200	5.4	100	3.8	4.2
13	315	7.6	30	210	5.4	100	3.8	4.0
14	320	7.3	31	210	5.2	100	3.7	3.8
15	305	7.3	31	220	5.1	100	3.5	4.1
16	300	7.3	30	225	4.7	100	3.2	3.8
17	(295)	7.8	31	235	---	100	2.9	3.7
18	(270)	8.0	30	250	---	110	2.3	3.7
19	(270)	8.0	30	250	---	---	1.8	3.7
20	7.8	30	250		---	---	3.1	2.90
21	7.1	30	245				2.3	2.90
22	6.5	31	260				3.2	2.80
23	6.0	30	270				2.3	2.70

Time: 0.0°.

Sweep: 1.4 Mc to 16.0 Mc in 40 seconds.

Table 12

Winnipeg, Canada (49.9° N, 97.4° W)

August 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	4.2	24	300					2.80
01	3.8	24	315					2.60
02	3.7	23	320				2.6	2.70
03	3.6	21	315				2.3	2.70
04	3.8	24	325					2.70
05	3.8	26	300					2.70
06	---	4.2	24	270	---	120	2.00	2.90
07	460	4.8	26	240	3.9	110	2.60	2.85
08	520	5.1	27	220	4.3	110	3.00	2.75
09	480	5.3	30	220	4.6	105	3.30	2.50
10	455	5.6	29	210	4.7	100	3.50	2.55
11	450	5.9	29	210	4.9	100	3.60	2.60
12	420	5.8	29	220	4.9	100	3.75	2.60
13	460	6.2	26	220	5.0	100	3.75	2.70
14	450	6.3	27	225	5.0	100	3.70	2.60
15	450	6.1	31	220	4.8	100	3.50	2.60
16	400	6.2	31	225	4.8	105	3.30	2.60
17	400	6.4	31	230	4.6	110	3.10	2.70
18	365	6.4	30	245	4.0	110	2.80	2.80
19	---	6.3	29	270	---	120	2.30	2.80
20	---	6.4	29	270	---	1.80		2.80
21	---	5.9	29	280				2.80
22	---	5.2	29	285				2.70
23	---	4.6	26	295				2.70

Time: 90.0°W.

Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 13

St. John's, Newfoundland (47.6° N, 52.7° W)										August 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		5.0	23	280				2.60			
01		4.4	26	290				2.60			
02		4.0	24	285				2.60			
03		3.5	24	300				2.60			
04		3.2	26	280				2.70			
05	---	4.2	28	250	---	---	---	3.00			
06	6	5.0	29	220	4.0	100	2.70	3.00			
07	400	5.3	26	205	4.2	100	3.00	2.90			
08	400	5.8	27	200	4.6	100	3.50	2.90			
09	425	5.9	28	200	4.7	100	3.60	2.75			
10	460	6.0	29	200	5.0	100	3.70	2.70			
11	405	6.2	29	200	5.0	100	3.85	2.70			
12	430	6.5	30	200	5.1	100	3.90	2.65			
13	430	6.3	30	200	5.0	100	3.85	2.70			
14	405	6.4	30	200	5.0	100	3.70	2.70			
15	375	6.9	30	210	4.8	100	3.50	2.70			
16	330	7.1	31	210	4.6	100	3.10	2.70			
17	(340)	7.0	30	225	---	100	2.80	2.80			
18		7.2	31	250		100	---	2.80			
19		7.2	30	250				2.00			
20		7.1	26	250				2.75			
21		6.3	28	250				2.60			
22		5.6	27	275				2.65			
23		5.2	27	275				2.60			

Time: 60.0°W.
Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 15

Sottens, Switzerland (46.6° N, 6.7° E)										August 1960	
Time	h'F2	foF2—Count	h'F1	foF1	h'E	foE	fEs	(M3000)F2			
00	300	6.2	29					2.8			
01	300	6.0	28					2.8			
02	310	5.8	27					2.8			
03	300	5.4	28					2.8			
04	300	5.2	27					2.8			
05	300	4.9	30					2.8			
06	280	5.6	28	270	3.4	120	2.0	3.0			
07	280	6.4	24	250	4.2	110	2.5	3.8	3.15		
08	290	6.7	27	230	4.6	110	3.0	4.3	3.1		
09	300	7.4	27	230	5.0	100	3.2	4.7	3.1		
10	300	7.4	25	220	5.1	100	3.4	5.2	3.2		
11	320	7.6	27	210	5.3	100	3.5	5.1	3.0		
12	330	8.0	28	210	5.3	100	3.6	4.8	3.0		
13	340	8.0	28	230	5.5	100	3.7	4.2	3.0		
14	340	8.0	30	220	5.4	100	3.6	4.0	3.0		
15	320	7.8	29	230	5.2	100	3.5	3.8	3.0		
16	320	7.7	30	235	5.0	100	3.4	3.7	3.0		
17	300	7.8	28	250	4.6	110	3.1	4.0	3.1		
18	280	7.8	27	250	4.1	110	2.7	4.3	3.1		
19	270	8.1	27	---	---	120	2.1	3.9	3.15		
20	260	7.8	26					3.8	3.2		
21	250	7.7	27					3.6	3.1		
22	260	6.8	26					3.4	3.0		
23	280	6.5	29					2.8	2.9		

Time: 15.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 17

Wakkanai, Japan (45.4° N, 141.7° E)										August 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		6.2	27	300				2.7		2.65	
01		5.8	27	295				(2.5)		2.65	
02		5.7	27	295				2.4		2.65	
03		5.3	27	300				2.3		2.65	
04		5.3	30	300				1.5		2.65	
05	---	5.6	30	275				1.90		2.75	
06	405	6.4	30	250	4.0			2.60	3.2	2.80	
07	370	6.6	30	250	4.4			3.00	4.2	2.80	
08	410	7.2	28	240	4.6			3.30	4.9	2.85	
09	365	7.1	26	235	(4.8)			3.45	5.2	2.90	
10	415	7.0	25	230	5.0			3.50	5.5	2.85	
11	435	7.6	25	220	5.1			3.50	5.6	2.80	
12	395	7.2	26	220	5.1			3.55	4.8	2.80	
13	400	7.0	29	230	5.0			3.50	4.8	2.75	
14	375	7.3	29	240	5.0			3.50	4.3	2.90	
15	365	6.8	30	245	4.8			3.40	4.0	2.80	
16	340	6.8	30	245	4.6			3.10	4.0	2.85	
17	(315)	7.0	30	260	---			2.70	4.0	2.90	
18		7.0	31	270				(4.0)		2.90	
19		7.4	30	270				(4.0)		2.80	
20	(7.2)	27	285					(3.7)		(2.70)	
21		7.0	26	285				(3.3)		2.70	
22		7.0	27	285				(2.8)		2.70	
23		6.6	29	295				2.6		2.65	

Time: 135.0°E.
Sweep: 1.0 Mc to 20.7 Mc in 1 minute.

Table 14

Graz, Austria (47.1° N, 15.5° E)										August 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		>5.7	27	305						(2.6)	
01		6.0	25	300						2.7	
02		>5.6	25	300						2.6	
03		5.4	24	310						2.6	
04		5.1	24	300						2.7	
05		5.3	25	285						2.9	
06	390	>5.9	24	240	(3.8)					2.8	
07	(200)	>6.9	28	240	(4.3)	(100)	(2.9)	3.4		3.0	
08	290	(7.7)	26	<250	4.7	100	3.1	3.8		3.1	
09	300	8.2	27	<250	5.1	110	3.3	4.0		2.9	
10	300	7.9	26	<245	5.2			3.5		2.9	
11	330	8.0	28	<250	5.2					2.8	
12	340	8.4	27	<260	5.4					2.8	
13	330	8.5	26	<250	5.2					2.8	
14	300	8.3	27	<260	5.2			3.3		2.9	
15	310	8.0	28	<260	5.1					2.9	
16	300	7.7	29	<240	(4.7)	110	3.3	3.3		2.8	
17		7.9	28	240		110	2.9	3.2		2.8	
18		8.3	27	250				3.0		2.9	
19		8.4	28	250						3.0	
20		(8.0)	26	250						(2.9)	
21		>6.7	29	260						(2.8)	
22		>5.9	24	280						(2.6)	
23		>5.6	27	295						(2.6)	

Time: 15.0°E.
Sweep: 2.0 Mc to 18.0 Mc in 50 seconds.

Table 16

Ottawa, Canada (45.4° N, 75.9° W)										August 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		4.7	28	295						(2.80)	
01		4.3	29	300						---	
02		4.0	27	300						---	
03		3.8	29	300						---	
04		3.2	29	300						---	
05		3.5	29	300						---	
06	(400)	4.5	30	260	3.8	115	2.4			2.95	
07	475	5.0	30	240	4.1	110	3.0	3.0		(2.85)	
08	460	5.4	30	230	4.5	110	3.3			2.90	
09	400	5.8	30	210	4.8	105	3.5	3.6		2.90	
10	470	6.0	30	200	5.0	105	3.6	3.7		2.70	
11	440	6.1	31	200	5.0	105	3.8	3.8		2.65	
12	410	6.1	31	205	5.0	105	3.9			2.80	
13	470	6.0	31	210	5.0	105	3.9			2.80	
14	450	6.1	31	220	5.0	105	3.8			2.75	
15	400	6.4	30	220	4.9	105	3.6			2.75	
16	400	6.6	30	230	4.6	105	3.3			2.80	
17	370	6.6	30	240	(4.3)	110	3.0			2.85	
18	(335)	6.8	31	260	---	110	2.6			2.85	
19		6.8	29	285		145	2.0			2.90	
20		6.5	30	260						2.90	
21		6.2	30	280						2.80	
22		5.5	29	290						(2.90)	
23		5.0	27	290						2.75	

Time: 75.0°W.
Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 18

Rome, Italy (41.8° N, 12.5° E)								August 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		(6.7)	23	310			2.9	2.65	
01		(6.5)	24	310			3.1	2.60	
02		(6.2)	21	310			2.4	(2.60)	
03		(6.1)	22	300			2.2	(2.60)	
04		(6.0)	21	300			2.2	(2.65)	
05	---	5.6	28	300	---	1.6		2.65	
06	---	(6.2)	22	250	---	130	2.2	3.2 (2.90)	
07	---	8.0	22	250	---	110	2.7	4.1 3.00	
08	---	7.9	29	240	---	110	3.2	4.5 3.10	
09	---	8.1	24	240	---	110	3.4	5.1 3.00	
10	---	8.2	26	210	---	110	3.6	5.2 2.95	
11	(340)	8.3	30	220	(5.2)	110	3.7	5.4 2.05	
12	---	8.8	29	220	---	110	3.7	4.8 2.80	
13	(350)	8.9	27	220	(5.4)	110	3.8	4.8 2.85	
14	(340)	9.0	27	240	(5.4)	110	3.8	2.85	
15	---	8.8	25	240	---	110	3.6	2.85	
16	---	8.7	29	240	---	110	3.4	2.90	
17		8.8	25	250		110	3.0	4.5 2.95	
18	(8.8)	24	260			120	2.5	4.5 (3.00)	
19		8.7	19	260		---	1.8	3.7 3.00	
20		8.6	20	260				3.8 3.00	
21	(8.0)	18	260					4.3 (2.85)	
22	(7.6)	21	280					3.0 (2.70)	
23	(6.8)	14	290					3.5 (2.70)	

Table 19

Akita, Japan (39.7° N, 140.1° E)								August 1960
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.8 25 300					(3.8)	2.70
01		6.6 25 295					(2.4)	2.75
02		6.3 26 295					(2.3)	2.70
03		5.9 28 290					(2.2)	2.70
04		5.6 28 300					(2.3)	2.70
05	(405)	5.7 29 290	---			2.2		2.80
06		355 6.8 29 245	4.0		2.50	3.0		3.00
07		345 7.3 29 245	4.4		2.95	3.8		3.00
08		310 7.6 28 240	4.7		3.30	4.8		3.10
09		340 8.1 27 210	4.8		3.55	(4.5)		3.00
10		350 7.9 27 225	5.0		3.70	5.1		2.90
11		355 7.8 27 210	5.2		3.90	(5.2)		2.85
12		360 7.8 26 215	5.2		(3.70)	(5.5)		2.80
13		355 7.8 26 230	5.4		3.75	(4.8)		2.85
14		340 8.0 27 240	5.1		3.90	(4.5)		2.90
15		335 8.0 28 245	5.0		3.55	(4.4)		2.95
16		305 8.0 28 245	4.6		3.20	4.0		3.00
17		300 7.8 29 250	---		2.70	(4.0)		3.00
18	295	7.8 29 260			---	(3.6)		2.95
19		8.0 29 260				(3.8)		2.90
20		7.6 28 275				(3.7)		2.80
21		7.6 28 285				(3.1)		2.70
22		7.2 28 295				(3.5)		2.70
23		7.3 25 300				(3.9)		2.65

Time: 135.0°E.

Sweep: 1.6 Mc to 20.0 Mc in 20 seconds.

Table 21

Yamagawa, Japan (31.2° N, 130.6° E)								August 1960
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(7.4) 29 310					3.7	(2.65)
01		7.2 27 310					3.6	2.70
02		6.6 30 300					3.0	2.75
03		6.3 29 290					2.4	2.75
04		5.9 30 305					(2.4)	2.65
05		5.5 27 310					2.3	2.70
06	---	6.3 31 275	---			2.00	2.4	3.00
07	---	8.1 31 250	---			2.70	3.1	3.20
08	(370)	7.7 31 240	---			3.15	3.8	3.15
09		330 7.9 31 240	5.2			3.45	4.6	2.90
10		360 8.1 31 245	5.2			3.65	5.1	2.80
11		350 8.8 30 230	5.6			3.75	5.2	2.75
12		350 9.6 30 230	5.5			3.85	5.0	2.75
13		350 9.8 30 245	5.6			3.95	4.9	2.70
14		350 10.2 31 245	5.6			3.85	5.0	2.75
15		335 10.0 31 245	5.4			3.70	4.6	2.80
16		320 10.1 31 250	5.2			3.50	4.4	2.85
17		300 9.8 30 250	4.7			3.10	4.4	2.85
18	290	10.0 30 265				2.50	3.8	2.95
19	(10.0)	30 255			---		3.8	(3.00)
20		8.2 30 255					3.5	2.80
21	(7.6)	31 300					3.1	(2.60)
22	(7.5)	30 310					2.8	(2.55)
23	(7.4)	30 310					3.2	(2.60)

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 23

El Cerrillo, Mexico (19.3° N, 99.5° W)								August 1960
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.8 29 280						2.80
01		6.8 29 285						2.80
02		6.6 29 260						3.00
03		6.0 29 255					1.7	2.80
04		5.6 29 270						2.80
05		5.2 29 270					2.3	2.90
06		5.4 29 270					1.7	2.90
07		6.6 30 240			111	2.10	2.8	3.10
08	---	7.6 30 220	---		103	2.90	3.4	3.00
09	(325)	8.2 28 205	4.9		103	3.30	3.9	2.90
10		350 9.2 30 200	5.5		103	3.70	4.2	2.70
11		360 10.0 28 215	5.6		103	3.80	4.1	2.65
12		360 11.0 28 210	5.7		103	4.00	4.4	2.70
13		350 11.2 27 210	5.6		103	4.00	4.4	2.70
14		340 11.6 24 220	5.6		103	3.95	4.4	2.80
15		330 12.0 27 220	5.5		103	3.80	4.4	2.80
16		300 11.4 27 225	5.1		103	3.60	4.0	3.00
17		10.9 28 235	---		105	3.20	4.0	3.00
18		10.2 29 240			109	2.60	3.6	3.10
19		9.2 28 245					3.9	3.00
20		8.0 28 240					3.3	2.90
21		8.0 26 260					2.4	2.80
22		7.2 29 275					2.4	2.00
23		7.0 30 280						2.80

Time: 90.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 20

Tokyo, Japan (35.7° N, 139.5° E)								August 1960
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.8 30 (335)					(3.2)	2.55
01		6.6 29 320					(3.3)	2.60
02		6.4 29 305					(2.5)	2.60
03		6.0 29 300					2.2	2.60
04		5.8 29 305					2.2	2.55
05	---	5.6 29 300	---					2.60
06	(350)	7.0 28 255	4.0			2.40	2.8	2.90
07		360 8.2 28 250	4.6			2.95	3.5	2.90
08		300 7.9 28 245	4.9			3.30	4.5	2.95
09		330 7.8 29 250	5.2			3.55	4.9	2.85
10		375 7.7 30 230	5.4			3.75	4.6	2.70
11		360 8.3 30 240	5.6			(3.85)	4.9	2.75
12		370 8.1 30 245	5.7			(3.90)	4.8	2.65
13		355 8.7 30 (250)	5.5			(3.85)	4.6	2.70
14	<350	9.0 30 250	5.4			3.80	4.2	2.70
15		330 8.8 30 250	5.3			3.70	4.2	2.75
16		320 8.5 30 250	4.9			3.30	4.6	2.80
17		300 8.4 31 255				2.70	3.8	2.85
18		300 8.4 31 280			---		3.5	2.90
19		8.2 30 (280)					3.4	2.85
20		7.4 30 300					4.5	2.65
21		7.2 30 (310)					(4.5)	2.55
22		7.2 30 330					(3.9)	2.55
23		7.0 30 <330					(3.8)	2.60

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 22

Formosa, China (25.0° N, 121.5° E)								August 1960
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(9.7) 27 270					(2.0)	(2.80)
01		9.0 26 260						2.90
02		8.0 26 250					(2.3)	2.85
03		7.5 20 260					(1.7)	2.90
04		6.6 20 265						2.85
05		5.8 23 260						2.90
06		7.0 26 235						3.20
07	---	7.9 27 220	---		<111	---	3.3	3.30
08	(260)	8.4 26 210	---		101	---	3.9	3.20
09	(305)	8.5 26 205	(5.2)		101	---	4.3	3.00
10	355	(9.3) 27 (200)	(5.5)		101	---	4.5	(2.85)
11	345	>10.0 28 (200)	(5.5)		101	---	4.5	2.80
12	350	12.2 28 (205)	(5.6)		101	---	4.6	2.80
13	350	12.9 29 (210)	(5.6)		101	---	4.5	2.80
14	340	13.3 29 205	(5.9)		101	---	4.4	2.85
15	325	13.4 29 220	(5.6)		101 (3.75)		4.2	2.90
16	300	14.2 28 (220)	(5.2)		(103) (3.40)		3.8	2.95
17	270	14.4 28 230			<111	---	3.7	(3.00)
18	---	(13.8) 28 245					(3.7)	3.15
19		>10.8 27 240					(3.0)	3.00
20		(10.8) 29 250					(1.8)	(2.80)
21		>10.0 27 260						2.75
22		>9.9 28 270						2.70
23		>9.3 26 280						2.75

Time: 120.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 24

Singapore, British Malaya (1.3° N, 103.8° E)								August 1960
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.2 24 230			---			3.15
01		8.7 27 215			---		1.4	3.15
02		7.8 29 220			---			3.10
03		6.0 25 230			---		1.6	3.10
04		>5.0 27 230			---		2.2	3.10
05		4.4 28 245			---		2.4	3.15
06	---	5.4 28 270	---		115	---	1.7	2.95
07	---	9.3 29 250	---		120	2.65	2.9	3.05
08	---	11.7 30 240	---		110	3.30		2.95
09	---	13.1 29 220	---		110	3.70		2.85
10	---	13.6 29 210	---		110	3.85		2.55
11	320	13.5 28 210	(5.1)		105	4.00		2.35
12	540	12.8 28 205	5.4		105	4.10		2.20
13	---	12.0 29 205	---		105	4.00		2.20
14	---	11.5 27 205	---		110	3.90		2.15
15	---	11.7 29 205	---		110	3.70		2.15
16	---	11.6 26 230	---		110	3.30		2.25
17	---	11.8 30 250	---		110	2.70		2.35
18	---	12.1 27 260	---		---		1.4	2.50
19	---	12.1 25 295	---		---			2.55
20	---	12.0 22 295	---		---			2.70
21		>12.1 22 255	---		---			2.80
22		11.8 22 220	---		---		2.2	3.00
23		11.5 25 215	---		---			3.00

Time: 105.0°E.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 25

Huancayo, Peru (12.0° S, 75.3° W)									
									August 1960
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		7.5 28	225					3.10	
01		7.1 27	225					3.15	
02		6.5 28	230					3.15	
03		5.7 28	235					3.20	
04		5.0 27	240					3.25	
05		4.1 25	245					3.18	
06		4.1 27	285		---	(1.35)		2.82	
07		7.6 31	245		119	2.45	5.7	3.05	
08		9.4 31	235		112	(3.10)	7.3	2.80	
09		10.25 30	220		---	(3.50)	7.6	2.60	
10	---	10.0 30	210	---	---	(3.85)	8.0	2.45	
11	---	9.9 31	200	---	---	(3.95)	8.3	2.40	
12	---	9.8 31	200	---	---	(4.05)	9.0	2.30	
13	---	9.35 30	200	---	---	(4.00)	8.2	2.30	
14	---	9.3 30	200	---	---	(3.85)	8.1	2.30	
15	---	9.5 31	210	---	---	(3.60)	8.0	2.30	
16		9.3 31	225		---	(3.20)	7.4	2.35	
17		9.1 31	250		112	(2.60)	5.8	2.38	
18		8.9 31	285		<166	1.55	4.2	2.40	
19		8.35 30	360					2.30	
20		7.8 23	330					2.45	
21		8.1 22	280					2.60	
22		8.3 25	235					2.90	
23		8.4 24	225					3.00	

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 27

Brisbane, Australia (27.5° S, 152.9° E)									
									August 1960
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		5.4 25	260				2.4	2.75	
01		5.3 26	260				2.5	2.80	
02		5.0 28	250				2.0	2.80	
03		4.6 29	250				2.1	2.80	
04		4.1 28	250					2.60	
05		4.0 28	270					2.70	
06		4.6 28	250			<1.60		2.85	
07		7.6 30	230			2.20		3.20	
08		9.0 30	230			2.95		3.20	
09		10.0 30	230			3.40		3.20	
10		10.6 30	220			3.55	3.8	3.10	
11		10.4 30	220		4.9	3.70	4.0	3.05	
12		10.0 28	220		4.9	3.80	4.3	2.95	
13		10.0 29	220		5.0	3.70	4.2	2.90	
14		9.7 29	220			3.50	4.3	2.90	
15		9.4 30	225			3.20	3.8	2.90	
16		9.0 30	240			2.80	3.0	2.90	
17		8.8 30	240			2.20	2.5	2.95	
18		8.5 30	235				3.0	2.90	
19		7.4 30	230				2.2	2.85	
20		6.6 30	250				2.1	2.75	
21		6.0 29	250					2.70	
22		5.8 27	255					2.75	
23		5.5 28	250					2.75	

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 29

Wakkanai, Japan (45.4° N, 141.7° E)									
									July 1960
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		7.1 29	300				(3.5)	2.60	
01		6.7 29	290				(2.8)	2.65	
02		6.5 28	290				(2.6)	2.70	
03		6.0 28	295				(2.8)	2.70	
04	---	5.9 29	300	---		1.55	2.4	2.65	
05	380	6.5 31	265	3.4		2.15	3.0	2.65	
06	350	7.2 31	250	4.2		2.70	4.5	2.65	
07	350	7.3 29	(245)	4.6		3.10	5.0	2.75	
08	355	7.2 29	220	(4.8)		3.35	(5.7)	2.70	
09	385	6.7 27	230	5.2		3.50	5.8	2.70	
10	415	6.8 25	230	5.2		3.60	(6.3)	2.65	
11	410	7.0 22	230	5.2		3.65	6.3	2.70	
12	430	6.6 24	225	5.2		3.60	5.8	2.70	
13	420	6.8 27	225	5.3		3.55	(5.0)	2.65	
14	400	7.0 28	240	5.2		3.50	5.0	2.70	
15	390	6.8 29	235	5.2		3.50	4.5	2.70	
16	365	6.8 29	240	5.1		3.25	5.0	2.80	
17	370	6.8 29	250	4.7		2.90	(5.2)	2.75	
18	---	6.8 31	265	4.5		2.35	5.7	2.80	
19		7.0 31	285				(5.0)	2.80	
20		7.0 21	280				(4.3)	2.70	
21		(7.2) 18	290				(5.0)	(2.65)	
22		(7.2) 17	290				(4.9)	(2.60)	
23		7.2 23	295				(2.8)	2.60	

Time: 135.0°E.
Sweep: 1.0 Mc to 20.7 Mc in 1 minute.

Table 26

Townsville, Australia (19.3° S, 146.7° E)									
									August 1960
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		>6.0 10	250					----	
01		>4.3 15	250					(2.90)	
02		>4.3 12	240					(3.20)	
03		3.9 17	240					1.9	3.30
04		>3.2 18	280					2.4	2.90
05		3.5 19	300					1.8	2.80
06		>3.7 22	200					2.4	2.90
07		>7.0 4	240			2.25		----	
08		>9.5 9	240			3.00		----	
09		(10.5) 16	230			3.30		3.10	
10		11.7 18	220			3.65		3.05	
11		11.5 19	210			3.75		3.00	
12		11.0 19	---			3.80		2.95	
13		11.2 17	---			3.75	(3.9)	2.85	
14		10.8 18	<210			3.55	3.9	2.80	
15		>10.4 20	215			3.45	3.8	2.80	
16		>10.0 19	230			3.20	3.4	(2.80)	
17		>10.0 8	250			2.70	3.6	----	
18		(8.6) 2	250			1.80	3.4	----	
19		>6.8 6	240				3.1	----	
20		>6.9 10	<250				2.4	----	
21		>6.2 12	260				1.8	----	
22		>6.5 8	260					----	
23		>6.0 10	270					----	

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 28

Falkland Is. (51.7° S, 57.8° W)									
									August 1960
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		3.4 19	335					(2.5)	----
01		3.6 24	350					----	
02		3.4 22	325					(2.45)	
03		3.4 28	315					(2.50)	
04		3.2 25	295					(2.65)	
05		3.1 27	260					(3.05)	
06		2.9 26	260			180	----	(2.70)	
07		5.2 24	240			155	1.80	----	
08		6.8 26	215			130	2.30	3.40	
09		7.9 27	225			115	----	3.1	3.35
10		9.1 22	225			110	3.05	(4.2)	3.35
11		9.6 22	220			110	(3.10)	(4.6)	3.35
12		9.6 23	225			110	3.20	(4.6)	(3.40)
13		9.6 18	230			110	----	(4.6)	(3.50)
14		8.4 20	230			115	----	(3.5)	(3.25)
15		8.4 23	230			115	----	3.1	(3.40)
16		8.3 25	230			130	2.20	2.4	3.40
17		6.8 22	220			---	E	(2.3)	(3.20)
18		5.3 25	230			---	----	(2.2)	----
19		4.4 22	240					(1.8)	----
20		3.4 24	240					(1.7)	----
21		3.1 27	270					(1.6)	(2.75)
22		3.2 22	280					(2.4)	----
23		3.6 17	345					1.9	(2.45)

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 30

Akita, Japan (39.7° N, 140.1° E)								July 1960
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.3	19	300			(3.9)	2.70
01		7.3	19	300			(4.0)	2.70
02		6.8	21	295			(3.6)	2.70
03		6.5	24	295			(3.3)	2.70
04		6.3	30	295			(2.5)	2.75
05	400	7.0	31	255	3.3	2.05	2.8	2.75
06	320	7.7	31	250	4.0	2.60	4.0	2.80
07	310	8.1	30	245	4.5	3.05	(5.2)	2.85
08	310	7.9	28 (240)	(4.7)		3.40	(6.2)	2.90
09	360	7.2	28	220	4.8	3.60	(6.2)	2.80
10	415	7.6	24	220	5.0	3.80	(6.9)	2.80
11	420	7.0	24	210	5.2	3.90	(6.8)	2.75
12	435	7.0	26	210	5.4	3.90	(6.8)	2.70
13	410	7.1	25	230	5.2	3.80	(5.3)	2.70
14	395	7.4	28	240	5.2	3.70	(5.5)	2.75
15	350	7.6	30	240	5.0	3.55	(4.8)	2.80
16	345	7.5	30	245	4.8	3.30	(6.4)	2.80
17	320	7.5	30	245	4.5	2.85	(5.9)	2.90
18	300	7.4	30	260	---	2.30	(5.9)	2.90
19		7.4	31	280			(4.2)	2.85
20		7.6	29	280			(5.0)	2.75
21		7.4	26	300			(4.9)	2.70
22		7.4	25	300			(3.8)	2.60
23		7.5	21	305			(5.0)	2.65

Table 31

Tokyo, Japan (35.7° N, 139.5° E)								July 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		7.9	29	<350			(4.6)	2.55	
01		7.6	29	320			(3.8)	2.65	
02		7.4	29	300			(3.0)	2.70	
03		6.8	29	300			(2.8)	2.60	
04		6.6	29	300			2.3	2.65	
05	(380)	6.6	29	270		2.10	2.2	2.70	
06		390	7.6	28	250	3.8	2.60	3.3	2.70
07		305	8.3	27	250	4.5	3.10	4.4	2.85
08		305	8.2	24	245	5.0	3.40	5.4	2.80
09		360	7.6	24	245	5.2	3.60	6.3	2.70
10		400	7.7	25	230	5.4	3.80	5.6	2.60
11		420	7.6	26	250	5.6	(3.90)	5.8	2.60
12		395	7.8	29	(250)	5.4	(3.95)	5.8	2.65
13		400	8.0	28	(250)	5.5	3.90	5.6	2.65
14		390	7.9	29	(250)	5.3	3.80	5.3	2.70
15		370	8.4	31	250	5.2	3.65	5.3	2.70
16		355	8.0	31	250	4.9	3.30	5.3	2.75
17	<340	8.1	31	(255)	(4.4)	2.90	(5.4)		2.75
18	<325	8.2	31	270	---	2.15	4.8		2.80
19		7.7	31	(290)			4.4		2.75
20		7.8	31	300			(4.2)		2.60
21		7.6	31	<325			(3.7)		2.50
22		7.6	31	350			(3.8)		2.50
23		7.6	30	<350			(4.6)		2.55

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 33

El Cerillo, Mexico (19.3° N, 99.5° W)								February 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		5.5	14	240				2.2	3.10
01		5.0	14	250					3.00
02		4.6	14	250					3.00
03		4.3	14	235					3.10
04		3.4	14	235					2.90
05		3.2	14	300			2.0		2.65
06		3.2	14	305			2.2		2.70
07		4.8	14	275			2.4		2.90
08		8.8	14	230	117	2.40	3.0		3.30
09		11.4	15	225	111	3.00	3.8		3.15
10		12.4	16	220	109	3.40			3.10
11		13.0	15	220	105	3.70			3.05
12		12.6	15	210	107	3.80	4.0		2.90
13		13.0	14	210	109	3.80	4.0		2.90
14		12.9	14	220	109	3.70	3.8		2.80
15		12.8	17	220	105	3.60	3.9		2.80
16		12.4	17	225	106	3.40	3.9		2.85
17		12.0	15	230	108	3.00	2.6		2.85
18		11.6	16	230	---	---	3.4		3.00
19		10.8	19	215			3.0		3.10
20		8.2	16	210			2.7		3.00
21		6.8	16	230			1.9		3.00
22		6.4	15	245			2.4		2.95
23		5.8	15	240			2.7		3.00

Time: 90.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 35

Svalbard, Norway (78.2° N, 15.7° E)								August 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	---	(4.8)	9	255	---	2.15	3.2	(2.55)	
01	---	(5.1)	6	265	---	---	3.2	---	
02	---	(4.5)	5	260	---	2.35	3.1	---	
03	---	(4.6)	6	250	---	2.35	3.2	---	
04	G	<4.2	8	260	3.80	110	---	2.9	G
05	(540)	4.8	10	250	3.85	110	2.75	3.0	(2.30)
06	(640)	(4.8)	9	260	4.20	110	2.95	3.1	G
07	(640)	<4.6	6	245	4.00	110	---	3.2	G
08	(590)	5.8	12	250	4.35	110	3.20		2.45
09	(420)	(6.6)	9	250	4.40	110	3.20		(2.55)
10	(480)	6.3	11	230	4.60	100	3.20	3.2	(2.55)
11	---	6.2	11	240	4.75	110	3.20		(2.55)
12	(495)	(6.3)	9	240	4.55	110	3.20		(2.55)
13	(470)	5.8	11	250	4.35	110	3.20		(2.55)
14	---	(5.6)	9	245	4.40	110	3.10		(2.55)
15	---	(6.0)	6	240	---	110	3.05	3.2	(2.55)
16	---	(5.9)	9	240	---	110	2.90	5.8	(2.60)
17	---	6.0	11	245	---	110	2.85	6.8	(2.60)
18	---	(5.6)	9	250	---	---	---	7.6	(2.60)
19	---	(5.4)	7	(260)	---	---	---	6.6	(2.55)
20	---	5.8	11	260	---	---	2.45	5.0	2.50
21	---	(5.5)	9	250	---	---	---	4.2	(2.60)
22	---	(5.1)	9	260	---	---	2.25	4.0	(2.55)
23	---	(5.4)	5	260	---	---	2.00	3.2	---

Time: 15.0°E.

Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

Table 32

Yamagawa, Japan (31.2° N, 130.6° E)								July 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		8.2	25	325				3.4	2.60
01		8.6	20	305				4.0	2.70
02		7.8	23	290				3.2	2.80
03		7.4	18	230				3.1	2.80
04		6.8	20	300				(2.6)	2.75
05		6.7	22	290				2.2	2.75
06	---	7.0	28	260	---		2.00		2.70
07	---	7.7	28	250	---		2.75		3.00
08	(490)	7.8	30	250	4.5		3.20		4.2
09	(470)	8.0	29	250	4.8		3.55		5.0
10	410	8.0	30	245	5.6		3.75		5.2
11	400	8.3	29	235	5.5		3.90		5.6
12	390	8.7	31	245	5.6		3.90		5.4
13	385	9.3	30	240	5.6		4.00		5.5
14	370	9.8	30	250	5.4		3.90		5.5
15	370	9.6	31	245	5.4		3.80		5.2
16	350	9.7	31	250	5.2		3.50		5.1
17	340	9.7	29	245	4.8		3.20		4.6
18	305	9.4	28	260	4.3		2.60		4.0
19	---	9.0	29	275	---		---		3.7
20	---	8.2	30	275	---		---		3.1
21	---	8.1	31	300	---		---		(3.1)
22	---	8.2	28	335	---		---		(3.1)
23	---	8.2	26	315	---		---		3.2

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 34

El Cerillo, Mexico (19.3° N, 99.5° W)								January 1960	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		5.8	28					3.4	3.00
01		4.0	28					3.4	3.00
02		4.3	27					3.9	3.20
03		3.6	28					4.0	3.10
04		3.0	28					4.0	2.70
05		3.1	28					3.6	2.60
06		3.0	28					3.7	2.60
07		4.8	27				---	3.1	2.90
08		9.2	28				2.30	3.4	3.30
09		11.4	31				3.05	3.6	3.25
10		12.8	28				3.40	3.9	3.20
11		12.2	28				3.70	4.2	3.10
12		12.0	29				3.80	4.4	2.85
13		12.7	26				3.80	4.4	2.80
14		12.8	27				3.80	4.4	2.85
15		12.2	27				3.60	4.4	2.90
16		11.7	26				3.40	4.2	2.85
17		11.4	26				2.90	5.3	2.95
18		10.5	26				2.00	3.8	3.05
19		9.1	26					4.9	3.00
20		7.8	29					4.0	3.00
21		7.0	28					4.1	3.10
22		6.3	30					4.0	3.10
23		5.1	30					3.4	3.00

Time: 90.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 36

Juliusruh/Rügen, Germany (54.6° N, 13.4° E)								August 1959	
Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	foEs	(M3000)F2	
00	---	6.1	29	315		----		2.45	
01	---	5.8	29	<310	---	E	1.2	2.45	
02	---	5.4	29	310	---	E	1.2	2.40	
03	---	5.1	29	305	---	E	1.3	2.45	
04	---	4.8	30	310		1.35	1.4	2.55	
05	---	5.4	30	290	---	1.80	2.1	2.70	
06	---	6.1	30	265		2.60	2.8	2.80	
07	(400)	6.8	30	245	---	3.00	3.4	2.85	
08	(400)	7.0	30	245	---	3.35	3.9	2.75	
09	390	7.5	31	230	5.2	3.60	4.0	2.75	
10	400	7.8	30	230	5.4	3.70	4.2	2.70	
11	410	8.2	29	230	5.5	3.80	4.3	2.70	
12	400	7.8	29	225	5.4	3.80	4.2	2.70	
13	420	7.6	30	230	5.5	3.80	4.2	2.65	
14	410	7.7	30	230	5.5	3.80	3.9	2.65	
15	(450)	7.8	30	230	5.2	3.70	3.9	2.70	
16	---	7.9	29	235	---	3.50	3.7	2.75	
17	---	7.8	28	250	---	3.25	3.4	2.75	
18	---	8.0	29	270	---	2.75	3.6	2.80	
19	---	8.3	29	290	---	2.20	3.4	2.80	
20	---	8.2	29	280		----	(3.0)	2.75	
21	---	7.9	29	275			2.1	2.70	
22	---	7.4	30	<290				2.60	
23	---	6.8	29	290				2.55	

Table 37

Winnipeg, Canada (49.9° N, 97.4° W)									
August 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	4.8	21	300				2.0	---	
01	4.6	21	310		---	---	2.1	---	
02	4.4	22	320					---	
03	4.5	25	320				3.0	---	
04	4.2	28	320				3.0	---	
05	4.1	29	320				2.4	---	
06	---	4.9	28	270	---	110	2.2	(2,8)	
07	---	5.3	27	240		100	2.8	2.9	
08	500	5.8	27	230	4.6	100	3.2	2.7	
09	480	6.2	27	220	5.0	100	3.5	2.4	
10	510	6.4	25	230	5.2	100	3.8	2.6	
11	490	6.8	23	220	5.4	100	4.0	2.6	
12	500	7.0	23	220	5.5	100	4.0	2.5	
13	500	6.9	25	220	5.5	100	4.0	2.5	
14	490	7.0	25	220	5.4	100	4.0	2.6	
15	480	7.0	25	220	5.3	100	3.8	2.6	
16	450	7.0	26	230	5.2	100	3.6	2.6	
17	420	7.0	28	230	4.8	100	3.2	(2,6)	
18	(380)	7.0	30	250	4.3	100	2.9	2.6	
19	---	7.0	30	280		115	2.4	(2,7)	
20		(7.0)	30	260			1.8	---	
21		(6.8)	29	270					
22		6.0	27	270					
23		5.5	23	270					

Time: 90.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 39

Ibadan, Nigeria (7.4° N, 3.9° E)									
August 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	7.0	31	350					---	
01	7.0	31	325					---	
02	7.0	31	300					---	
03	(6.6)	31	250					(3,15)	
04	(5.8)	31	250					3.20	
05	5.2	30	245					3.15	
06	8.0	31	260			2.15		3.10	
07	11.2	29	250			3.10		3.05	
08	12.7	31	235			3.60		2.95	
09	13.4	29	225			3.95	8.2	2.65	
10	13.8	29	220			4.15	7.7	2.45	
11	12.9	28	210			(4.30)	9.5	2.30	
12	12.4	29	205			(4.30)	9.5	2.15	
13	11.6	25	200			(4.20)	8.2	2.15	
14	11.2	28	205			(4.05)	7.0	2.20	
15	11.3	29	210			3.80	7.0	2.15	
16	11.7	29	230			3.35	7.0	2.20	
17	>11.7	30	250			2.80	6.7	(2,25)	
18	>11.3	30	295			1.70		(2,30)	
19	(9.5)	29	390					2.10	
20	9.3	30	380					(2,05)	
21	9.0	30	410					---	
22	8.8	30	375					---	
23	8.2	31	370					---	

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 41

Capetown, Union of S. Africa (34.1° S, 18.3° E)									
August 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	2.8	26	---				<1.6	2.65	
01	2.9	26	---				<1.6	2.65	
02	3.0	26	---				<1.5	2.70	
03	3.0	26	---				<1.5	2.75	
04	3.0	26	---				<1.5	2.75	
05	2.9	26	---				<1.4	2.70	
06	2.8	25	---				<1.4	2.80	
07	3.6	24	260		<1.3	<1.4	2.80		
08	---	7.4	26	235	2.2		3.20		
09	---	9.2	27	235	3.0		3.15		
10	(245)	10.4	27	235	3.3		3.00		
11	---	(11.7)	29	235	3.6		(2,90)		
12	(265)	(11.9)	29	230	---	3.8	3.9	2.75	
13	---	(12.1)	30	230	---	3.8	4.0	2.75	
14	(260)	(12.2)	30	240	---	3.8	4.1	2.65	
15	(290)	(11.8)	30	240	---	3.6	4.0	2.70	
16	---	11.6	30	240	---	3.3	3.7	2.75	
17	---	11.4	30	240		2.8	3.4	2.80	
18	---	11.0	30	240		2.0	2.4	2.90	
19	---	10.0	28	225	<1.4	1.6		3.00	
20	---	7.2	28	220		1.8		3.05	
21	---	5.5	28	230			2.0	3.10	
22	---	3.6	28	230			<1.5	3.10	
23	---	2.9	27	---			1.6	2.85	

Time: 30.0°E.

Sweep: 1.0 Mc to 17.0 Mc in 7 seconds.

Table 38

St. John's, Newfoundland (47.6° N, 52.7° W)									
August 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		5.4	24	300				2.60	
01		5.0	27	300				2.60	
02		4.6	28	300				2.60	
03		4.0	27	300				2.60	
04		3.8	27	300		135	1.5	2.70	
05		4.8	28	267	---	112	2.2	3.00	
06	(350)	5.5	29	250	4.2	110	2.9	3.00	
07	445	5.9	29	232	4.6	105	3.2	2.85	
08	468	6.0	29	220	5.0	102	3.6	2.80	
09	475	6.3	29	221	5.1	101	3.9	2.75	
10	425	6.6	30	220	5.4	101	3.9	2.80	
11	475	7.0	30	<218	5.5	101	4.0	2.65	
12	492	7.2	31	220	5.4	101	4.0	2.65	
13	470	7.3	31	220	5.4	101	4.0	2.65	
14	458	7.6	30	220	5.2	101	3.9	2.65	
15	435	7.7	30	230	5.1	102	3.7	2.65	
16	(408)	7.8	30	235	4.9	105	3.4	2.65	
17	---	7.9	31	250	---	110	2.9	2.70	
18	---	0.1	31	280		116	2.3	2.75	
19	---	8.0	29	272	---	1.9		2.75	
20	---	7.5	28	265				2.70	
21	---	7.0	29	280				2.60	
22	---	6.4	26	295				2.65	
23	---	6.0	24	300				2.60	

Time: 60.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 40

Sao Paulo, Brazil (23.5° S, 46.5° W)									
August 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		10.6	27	220				3.10	
01		9.9	28	215				3.05	
02		8.4	28	215				3.00	
03		6.8	27	220				3.00	
04		5.7	28	250				2.75	
05		4.6	28	<275				2.80	
06		4.5	25	270				2.75	
07		8.0	27	245			----	3.00	
08		10.5	25	240			3.20	3.10	
09		11.8	24	225			(3,50)	3.00	
10	---	13.2	19	220			(3,75)	2.90	
11	(325)	13.7	21	215			---	2.80	
12	---	13.4	18	225			---	2.65	
13	(355)	13.0	21	<225	---		---	2.70	
14	370	13.1	22	225	---		---	2.60	
15	(355)	13.7	19	225	---		---	2.65	
16	---	14.0	22	240			---	2.80	
17		(14.0)	25	250			---	(2,90)	
18		13.6	21	235				(3,00)	
19		13.4	20	240				2.95	
20		(12.0)	22	240				(2,70)	
21		>12.0	23	240				2.90	
22		(12.3)	21	230				(3,00)	
23		12.5	25	220				3.00	

Time: 45.0°W.

Sweep: 1.75 Mc to 20.0 Mc in 2 minutes 30 seconds.

Table 42

Buenos Aires, Argentina (34.5° S, 58.5° W)								August 1959
Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	foEs	(M3000)F2
00		6.6	29	280				2.70
01		6.4	29	280				2.70
02		6.4	29	270				2.80
03		5.9	27	260				2.80
04		5.0	28	230				2.80
05		4.3	27	260		---	---	2.50
06		4.4	24	300		---	---	2.75
07		7.9	27	240		---	---	3.10
08		10.0	29	240		---	---	3.10
09	---	>11.0	27	240		---	---	3.10
10	270	12.0	28	240		---	---	3.05
11	270	>12.0	28	240		---	---	3.00
12	275	12.0	27	250		---	---	2.90
13	300	>11.9	26	250	---	---	---	2.90
14	295	>12.0	30	250	---	---	---	2.90
15	(315)	>12.0	30	245	---	---	---	3.00
16	---	11.5	31	240				2.95
17		11.0	30	235				3.00
18		11.0	31	230				3.05
19		>10.1	30	235				2.95
20		10.9	31	240				2.95
21		9.5	29	240				2.95
22		8.1	29	240				2.85
23		6.8	28	270				2.70

Table 43

Canberra, Australia (35.3° S, 149.0° E)									August 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00		5.8	27	260				2.65		
01		>5.5	26	250				(2.75)		
02		5.6	22	260				2.70		
03		(5.3)	27	260				2.70		
04		>5.0	28	240				2.75		
05		>4.8	28	240				2.80		
06		4.6	27	230				2.85		
07		>7.0	25	230		2.10		(3.10)		
08		>9.5	25	220		2.75		(3.20)		
09		>10.0	23	220		3.30				
10		>10.0	14	210		3.50				
11		>11.0	9	(220)		3.70	3.8	----		
12		(11.2)	7	(220)		3.70		----		
13		>10.0	5	(210)		3.65				
14		>11.0	8	(210)		3.50	3.7			
15		>10.0	12	220		3.35	3.5			
16		>10.0	21	220		3.00	3.2			
17		>9.0	27	220		2.15	2.2			
18		>9.0	28	220		----		(2.90)		
19		>8.5	27	220				2.90		
20		(7.6)	26	220				2.90		
21		>7.0	23	230				2.80		
22		>7.0	27	240				(2.80)		
23		>6.0	27	250				(2.80)		

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 45

Byrd Station (80.0° S, 120.0° W)									August 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00		>5.0	13	345			>1.9	----		
01		>5.0	17	<365			>3.0	(2.55)		
02		(5.4)	14	(360)			3.8	----		
03		>5.0	17	(355)			>2.4	(2.70)		
04		(4.9)	12	<315			3.0	(2.70)		
05		(4.7)	9	(285)			>2.0			
06		(4.5)	7	(260)				(2.90)		
07		(4.7)	13	<285				(2.85)		
08		(5.7)	11	(265)				(3.05)		
09		(5.45)	14	<300				(2.95)		
10		(6.0)	23	(275)				(2.95)		
11		(6.0)	21	260				(3.00)		
12		5.7	21	<280				(2.90)		
13		5.5	17	<270				(2.85)		
14		>5.0	15	<310				(3.00)		
15		>5.0	13	<325			2.6	(2.95)		
16		4.7	11	330			2.9	(2.82)		
17		(5.0)	10	350			4.0	----		
18		>5.0	13	<355			>2.8	----		
19		>5.0	13	<355			4.4	----		
20		(5.2)	19	330			3.8			
21		>5.0	19	<345			>2.0	----		
22		>5.25	18	320			>2.9			
23		>5.0	18	<330				(2.65)		

Time: 120.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 47

Lindau/Harz, Germany (51.6° N, 10.1° E)									July 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00		7.18	29	294				2.52		
01		6.70	31	304				2.50		
02		6.39	30	301				2.50		
03		5.90	29	298				2.52		
04		5.87	30	304				2.59		
05		6.18	30	275		108	2.10	2.8		
06		6.50	29	250		102	2.55	3.7		
07		(473)	7.15	30	240	4.68	102	3.03	4.2	
08		443	7.10	30	231	5.05	102	3.34	4.5	
09		402	7.12	30	228	5.20	101	3.56	4.7	
10		415	7.30	28	226	5.30	100	3.72	5.0	
11		456	7.20	29	232	5.48	100	3.72	5.1	
12		421	7.25	29	231	5.60	100	3.89	5.0	
13		461	7.44	29	222	5.75	101	3.86	5.1	
14		457	7.26	28	225	5.64	101	3.88	4.6	
15		412	7.42	30	223	5.54	102	3.77	4.7	
16		434	7.46	29	230	5.40	102	3.58	3.8	
17		(400)	7.38	27	237	5.00	104	3.33	3.9	
18		---	7.44	31	245	---	105	2.96	4.3	
19		---	7.55	31	258	---	108	2.49	4.4	
20		---	7.44	30	276	---	---	1.75	4.0	
21		---	7.80	30	274	---	E	3.5	2.69	
22		---	7.80	30	274	---	---	2.6	2.62	
23		---	7.40	30	284	---	---	2.3	2.55	

Time: 15.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 44

Wilkes Station (66.9° S, 110.5° E)									August 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00		(4.6)	12	240		135	(1.30)		(2.80)	
01		(5.2)	11	250		125	>1.85		(2.90)	
02		(6.5)	15	240		120	>2.00		(2.85)	
03		>7.4	12	250		125	>2.10		(2.70)	
04		(7.6)	12	<250		125	>2.60		(2.80)	
05		(8.6)	10	250		125	>2.20		(2.65)	
06		(9.4)	9	255		125	>2.20		(2.65)	
07		>7.3	16	250		125	(2.05)		(2.70)	
08		>7.4	10	250		125	(1.85)	1.8	(2.70)	
09		>6.7	9	265		125	>1.60		(2.65)	
10		(5.2)	11	275		---	E		(2.60)	
11		(5.0)	5	275		---	E	2.4	(2.45)	
12		>4.6	6	<275		---	E	2.9	(2.60)	
13		>4.9	7	(250)		---	E	1.6	(2.70)	
14		(4.2)	7	<260		---	E	3.9	(2.85)	
15		(3.8)	9	<240		---	E	1.8	(2.85)	
16		(4.2)	11	<245		---	E	2.2	(2.80)	
17		(3.3)	9	<250		---	E		(2.85)	
18		>3.6	9	<240		---	E		(2.80)	
19		>3.5	8	<240		---	E		(2.75)	
20		>3.3	11	<250		---	E	2.1	(2.95)	
21		(3.7)	15	<250		---	E	1.5	(2.80)	
22		(4.2)	6	250		---	E	2.2	----	
23		(4.6)	9	<245		---	E	2.8	(2.80)	

Time: 0.0°.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 or 27 seconds.

Table 46

Juliusruh/Rügen, Germany (54.6° N, 13.4° E)									July 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00		6.8	23	300					2.50	
01		6.4	25	300			E	1.0	2.50	
02		6.2	23	300			E	1.3	2.55	
03		5.5	19	300			E	1.4	2.50	
04		---	5.6	22	300			1.55	1.8	
05		---	5.9	22	280			2.15	2.4	
06		(475)	6.1	22	260	4.2		2.70	3.1	
07		(455)	6.7	19	240	4.6		2.70	3.6	
08		450	6.6	19	235	4.8		3.30	3.7	
09		420	7.0	21	250	5.2		3.55	4.0	
10		415	7.2	21	220	5.2		3.60	4.2	
11		475	7.1	21	220	5.3		3.70	4.4	
12		455	7.0	23	220	5.4		3.80	4.4	
13		460	7.0	25	215	5.4		3.70	4.1	
14		460	6.8	19	225	5.4		3.55	3.7	
15		490	6.9	21	220	5.3		3.55		
16		430	7.0	24	230	5.1		3.40		
17		(410)	7.1	25	240	---		3.25	3.8	
18		---	7.2	24	250			2.75	4.3	
19		---	7.2	24	(290)			2.30	3.5	
20		---	7.1	24	<300			1.80	2.3	
21		---	7.5	25	290					
22		---	7.4	24	290					
23		---	7.1	25	300					

Time: 15.0°E.

Sweep: 0.5 Mc to 20.0 Mc in 20 seconds.

Table 48

Johannesburg, Union of S. Africa (26.1° S, 28.1° E)								July 1959	
Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	foEs	(M3000)F2	
00		2.9	31	---				2.70	
01		2.9	31	(315)			<1.6	2.75	
02		3.0	31	---			<1.6	2.80	
03		3.0	31	---			1.8	2.85	
04		2.8	31	---			1.4	2.80	
05		2.8	31	---			<1.4	2.80	
06		2.8	31	(250)			<1.4	2.80	
07		6.1	31	235		2.0		3.15	
08		8.9	31	220		2.7	3.0	3.30	
09	---	10.2	31	220		3.3	4.0	3.20	
10	(240)	11.2	30	220		3.6	4.0	3.10	
11	(240)	11.6	30	215		3.0	4.0	3.00	
12	(250)	11.4	30	210	---	3.9	4.1	2.95	
13	(250)	11.3	30	210	---	3.8	4.2	2.90	
14	---	11.0	31	215	---	3.7	4.2	2.80	
15	(275)	11.0	31	225	---	3.4	4.0	2.80	
16	(250)	10.8	31	230		3.0	4.0	2.90	
17	---	10.8	31	230		2.3	2.5	3.00	
18		9.4	31	215		---	2.2	3.05	
19		6.8	31	210			2.0	3.05	
20		5.2	31	225			2.1	3.15	
21		4.0	31	(230)			1.8	3.10	
22		3.2	31	---			1.7	3.10	
23		3.0	31	---			<1.7	2.80	

Table 49

Capetown, Union of S. Africa (34.1° S, 18.3° E)										July 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		2.5 31	---				2.8	2.60			
01		2.6 31	---				3.1	2.70			
02		2.8 30	---				2.7	2.65			
03		2.8 31	---				2.4	2.70			
04		2.8 31	---				2.1	2.80			
05		2.8 30	---				2.6	2.85			
06		2.7 29	---				2.8	2.70			
07		2.7 30	---				2.1	2.75			
08		6.1 31	235			2.0	2.5	3.10			
09		8.6 31	235				2.7	3.20			
10	(250)	10.1 31	235	---		3.1	3.2	3.10			
11	250	11.0 31	230	---		3.4		3.05			
12	250	11.4 31	230	---		3.6	3.7	2.95			
13	(250)	11.4 31	235	---		3.6	3.9	2.85			
14	(250)	11.4 31	230	---		3.6	4.0	(2.80)			
15	(260)	11.7 31	235			3.3	3.8	(2.80)			
16	---	11.6 31	240			3.0	3.6	2.90			
17		10.9 31	240			2.5	3.1	2.95			
18		9.7 31	220			<1.8	2.6	3.05			
19		7.5 31	210				2.2	3.05			
20		5.3 31	225				2.2	3.15			
21		3.7 31	---				2.0	3.20			
22		2.7 31	---				2.1	3.10			
23		2.4 31	---				2.6	2.85			

Time: 30.0°E.

Sweep: 1.0 Mc to 17.0 Mc in 7 seconds.

Table 51

Svalbard, Norway (78.2° N, 15.7° E)										February 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		4.4 10	270		---	E	1.4	2.50			
01		4.4 10	275		---	E		(2.35)			
02		4.3 13	295		---	(1.40)	2.6	(2.40)			
03		(4.0)	8 325		---	1.90	3.0	(2.30)			
04		4.2 10	315		---	1.50	2.5	(2.40)			
05		3.5 11	310		---	1.40	1.9	(2.40)			
06		3.9 14	315		---	1.40	3.0	2.40			
07		3.6 12	270		---	1.35	2.5	(2.40)			
08		4.2 11	300		140	1.45	1.7	(2.55)			
09	(6.1)	9 300			---	1.60	2.6	---			
10	(8.8)	8 270			---	2.10	2.3	(2.70)			
11	(10.5)	7 290			---	1.95	2.8	(2.80)			
12	(10.0)	5 285			---	1.95	2.2	---			
13	(5.5)	5 260			---	1.95	2.5	(2.85)			
14	(6.8)	9 270		135		1.90		(2.70)			
15	(6.4)	8 265			---	1.85		(2.60)			
16	(6.0)	5 250			---	1.50		---			
17	(5.2)	7 265			---	1.35	2.8	(2.55)			
18	(4.7)	5 260			---	---	3.2	---			
19	(5.8)	7 270			---	E	3.1	(2.55)			
20	(6.4)	3 260			---	E	1.8	---			
21	(6.2)	8 250			---	E	1.4	(2.55)			
22	(4.9)	7 250			---	E	1.4	(2.55)			
23	(3.6)	8 275			---	E	1.4	(2.50)			

Time: 15.0°E.

Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

Table 53

Dourbes, Belgium (50.1° N, 4.6° E)										July 1958	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		6.9 28	305				<1.6	2.55			
01		6.4 28	310				<1.3	2.55			
02		6.2 28	300				<1.2	2.55			
03		5.8 28	310				<1.4	2.60			
04	---	5.8 28	290	---	<114	1.75	1.9	2.65			
05	(440)	6.4 28	255	4.3	111	(2.50)	2.8	2.70			
06	370	6.7 28	<240	4.5	103	2.80	3.3	2.80			
07	370	7.1 27	225	5.0	101	3.30	3.7	2.75			
08	370	7.3 27	220	5.3	101	3.55	4.0	2.80			
09	420	7.4 28	(210)	5.5	101	3.70	4.1	2.70			
10	415	7.4 28	<210	5.5	101	(3.80)	4.1	2.65			
11	430	7.5 27	200	5.9	101	(4.00)	4.1	2.60			
12	415	7.6 27	210	5.7	101	(3.95)	4.2	2.60			
13	435	7.5 28	210	5.8	101	(3.90)	4.2	2.60			
14	440	7.4 29	220	5.7	101	3.75	4.0	2.60			
15	430	7.4 28	220	5.5	101	3.70	3.7	2.60			
16	395	7.5 28	230	5.3	103	3.50	3.8	2.75			
17	395	7.3 27	(230)	5.0	103	3.15	3.5	2.75			
18	---	7.7 25	<250	---	105	2.60	3.1	2.85			
19	(7.6)	27	270	---	<119	<2.15	2.8	(2.85)			
20	(7.6)	27	270	---		<1.60	2.4	(2.75)			
21	(7.7)	28	270				<1.6	(2.65)			
22	(7.4)	28	280				<1.6	(2.55)			
23		7.4 28	300				<1.6	2.55			

Time: 0.0°.

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 50

Port Lockroy (64.8° S, 63.5° W)										July 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		2.4 26	365					2.40			
01		2.4 25	380					2.40			
02		2.4 27	370					2.50			
03		2.3 25	375		---			2.45			
04		2.4 24	360		---			2.45			
05		2.4 23	335					2.50			
06		2.1 23	290					2.70			
07		2.1 21	<295					2.75			
08		>3.0 19	265		---		1.4	<2.65			
09		>5.1 25	<235		<1.45		2.0	<3.20			
10		7.7 22	215		(1.65)		2.4	3.30			
11		8.4 28	215		<2.15		2.3	3.35			
12		8.7 27	215		(2.15)			3.45			
13		8.5 21	220				2.10	3.45			
14		7.8 28	215				2.00	3.45			
15		7.4 26	225				1.70	3.35			
16		6.2 28	220				1.35	3.35			
17		5.1 24	220					3.35			
18		3.5 23	240					3.35			
19		2.7 19	260				1.0	3.10			
20		2.2 26	310					3.05			
21		2.2 28	350					2.60			
22		2.2 27	360					2.50			
23		2.3 25	370					2.45			

Time: 60.0°W.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 52

Hollandia, Netherlands New Guinea (2.5° S, 140.8° E)										August 1958	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00	(350)	(14.0)	8	<250	---	100	4.0	(3.20)			
01	(395)	(14.0)	7	<250	(7.0)	100	---	<6.0			(2.85)
02	400	(13.5)	3	<260	(7.6)	---	---	<6.2			---
03	440	(14.0)	5	---	(7.4)	---	---	<6.5			(2.80)
04	445	(13.4)	1	<260	7.1	---	---	<6.5			---
05	430	(13.0)	6	---	6.8	100	---	(4.7)			(2.50)
06	435	(13.2)	6	(220)	(6.7)	100	3.8	(2.50)			
07	---	(13.0)	7	230	---	105	3.5	3.8			(2.65)
08	---	(12.4)	7	250	---	120	2.6	3.5			(2.50)
09	(13.0)	9	295	---	---	---	---	3.6			(2.55)
10	(13.5)	3	330					3.1			---
11	(13.2)	4	260					3.8			---
12	(14.8)	2	220					3.4			---
13	(13.5)	9	200								(2.95)
14	(12.8)	13	200					(3.00)			
15	10.8	23	200					3.10			
16	9.6	24	200					3.00			
17	8.4	28	200					3.00			
18	7.8	29	210					3.2			3.05
19	7.5	30	210					3.15			
20	6.9	29	210					2.3			3.30
21	9.8	29	240			140	2.4	3.0			3.20
22	12.8	21	225			100	3.2	3.6			3.15
23	---	14.3	13	225	---	100	3.7	3.20			

Time: 0.0°.

Sweep: 1.4 Mc to 20.0 Mc in 40 seconds.

Table 54

Poitiers, France (46.6° N, 0.3° E)								July 1958
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(7.9)	31	<310			2.3	(2.40)
01		(7.4)	31	<315			2.3	(2.40)
02		6.9	31	<315			2.1	2.40
03		(6.6)	31	<310			2.2	(2.45)
04	---	6.3	31	320	---	---	E	2.50
05	(400)	6.8	31	270	(4.0)	125	1.95	3.0
06	360	7.3	30	<250	(4.5)	110	2.70	3.6
07	340	7.6	30	(240)	(5.0)	105	3.20	4.0
08	365	8.0	30	(230)	(5.4)	100	3.60	4.4
09	410	8.0	31	(230)	5.8	100	3.80	4.4
10	410	8.4	30	220	(5.8)	100	3.95	4.6
11	425	8.3	29	235	(5.9)	105	4.00	4.7
12	410	8.4	29	235	6.0	105	4.00	4.4
13	440	8.2	30	230	5.9	105	4.05	4.5
14	430	8.2	31	<240	5.9	105	4.00	4.4
15	420	8.2	31	<250	5.7	105	3.85	4.5
16	380	8.3	31	<240	(5.4)	105	3.65	4.0
17	360	(8.2)	31	250	(5.2)	110	3.30	3.7
18	320	(8.6)	31	250	(4.5)	110	2.80	3.4
19	---	(8.6)	30	275	---	125	2.00	3.0
20		>8.1	30	270	---	E	2.5	(2.60)
21		8.0	30	<280	---	---	3.2	---
22		>8.0	30	<285			2.5	---
23		>8.0	30	(305)			2.1	(2.30)

Table 55

Rabat, Morocco (30.9° N, 6.8° W)									
									July 1958
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	>9.1	30	<320				3.1	(2.45)	
01	(9.2)	30	<315				2.7	(2.50)	
02	>9.0	31	<300				2.4	2.60	
03	(8.5)	31	<300				3.1	2.50	
04	7.9	31	<310				2.8	2.50	
05	7.6	30	300				2.2	2.60	
06	---	7.6	30	255	---	120	2.10	3.2	2.70
07	(350)	8.2	30	245	---	110	2.85	3.3	2.95
08	275	8.3	29	(235)	5.1	100	3.35	4.4	2.80
09	350	8.4	24	<230	5.7	100	3.65	4.1	2.80
10	430	8.6	27	210	5.7	105	3.90	4.1	2.60
11	400	9.2	28	(210)	6.0	105	4.00	4.0	2.55
12	390	9.9	27	230	6.1	105	---	---	2.60
13	390	10.0	31	<230	6.1	105	---	---	2.60
14	385	10.1	30	230	6.0	105	---	---	2.60
15	375	10.2	30	230	5.8	105	3.85	---	2.60
16	365	10.2	31	<240	5.8	100	3.70	4.2	2.70
17	345	10.1	31	<245	5.2	100	3.40	3.8	2.70
18	310	9.6	30	250	---	105	2.90	3.6	2.80
19	(280)	(9.4)	30	(270)	---	120	2.10	2.8	2.80
20	9.0	29	<280	---	---	---	---	3.2	2.70
21	9.0	31	<300	---	---	---	---	2.8	2.50
22	>9.0	31	<315	---	---	---	---	2.8	2.45
23	(9.1)	30	<325	---	---	---	---	3.1	2.45

Time: 0.0°.

Sweep: 1.6 Mc to 17.0 Mc in 1 minute.

Table 57

Oakar, French W. Africa (14.7° N, 17.4° W)									
									July 1958
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	5.4	10	<370				2.3	(2.40)	
01	(5.8)	9	350				2.3	(2.50)	
02	(5.4)	8	320					(2.50)	
03	5.0	10	320					2.4	
04	5.5	10	310					2.55	
05	5.3	14	<295				2.0	2.65	
06	5.1	17	250				2.4	2.80	
07	6.6	26	235		135	1.90	3.2	3.10	
08	8.5	22	215		105	2.75	>4.5	3.25	
09	9.3	23	205		100	3.30	4.7	3.00	
10	10.5	25	200		95	(3.70)	4.9	2.75	
11	---	11.1	23	190	---	95	3.90	5.0	2.60
12	---	11.9	19	<190	---	95	(4.15)	4.8	2.60
13	(450)	12.2	18	185	---	95	4.25	---	2.55
14	(420)	>12.9	8	190	(6.1)	95	4.10	4.6	(2.45)
15	(385)	>13.3	6	195	---	95	4.00	4.2	---
16	(430)	(12.2)	6	200	---	100	3.80	---	(2.35)
17	---	(12.5)	8	205	---	100	3.50	3.8	---
18	---	12.3	10	220	---	100	3.00	3.6	(2.50)
19	---	12.2	13	240	---	110	2.30	4.5	(2.45)
20	---	11.2	18	300	---	---	1.30	2.4	2.30
21	---	>8.9	10	390	---	---	---	2.2	(2.30)
22	---	7.6	12	410	---	---	---	2.0	2.30
23	---	6.2	10	390	---	---	---	2.2	(2.35)

Time: 0.0°.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 59

Hollandia, Netherlands New Guinea (2.5° S, 140.8° E)									
									July 1958
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	275	13.9	21	220	7.2	100	3.8	3.9	3.10
01	310	(13.4)	16	230	7.8	100	3.9	4.2	(3.00)
02	360	13.7	17	(250)	7.4	100	3.6	4.0	2.75
03	400	(13.4)	20	(250)	7.4	100	3.7	4.4	(2.65)
04	445	13.2	14	(250)	6.8	100	3.8	4.4	2.70
05	420	(13.4)	15	(250)	6.8	100	3.8	4.1	2.55
06	400	13.7	14	220	6.8	100	3.7	4.2	2.50
07	405	(13.3)	14	220	7.0	100	3.3	4.0	(2.60)
08	(400)	13.7	14	240	---	110	2.5	3.8	2.60
09	---	(14.0)	10	260	---	---	---	3.9	(2.70)
10	---	(14.3)	7	295	---	---	---	3.7	(2.70)
11	---	(13.8)	5	250	---	---	---	3.5	(2.80)
12	---	(14.0)	10	210	---	---	---	3.4	(2.95)
13	---	(13.6)	16	210	---	---	---	3.5	(2.95)
14	---	(12.2)	15	200	---	---	---	3.7	3.00
15	---	11.0	21	200	---	---	---	3.5	3.10
16	---	9.9	24	200	---	---	---	3.6	3.10
17	---	7.9	27	200	---	---	---	3.7	3.10
18	---	7.2	26	200	---	---	---	3.7	3.15
19	---	6.5	27	210	---	---	---	3.3	3.15
20	---	5.9	28	210	---	---	---	3.2	3.30
21	---	8.7	31	240	---	130	2.2	3.5	3.30
22	(250)	12.1	21	220	---	100	3.0	3.8	3.30
23	---	250	14.0	20	215	---	100	3.5	4.0

Time: 0.0°.

Sweep: 1.4 Mc to 20.0 Mc in 40 seconds.

Table 56

Tamanrasset, French W. Africa (22.8° N, 5.5° E)									
									July 1958
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	>12.8	8	300		---	---	2.5	---	---
01	>11.4	10	290		---	---	2.4	---	---
02	>10.4	8	270		---	E	2.2	---	---
03	>8.8	10	260		---	---	2.2	---	---
04	(8.6)	8	250		---	E	2.4	(2.45)	
05	>7.5	9	255		---	E	(2.8)	(2.65)	
06	(8.8)	8	(240)		110	2.75	3.4	(3.00)	
07	8.8	10	230		100	3.40	5.3	(2.80)	
08	9.5	11	225	---	100	3.80	5.6	2.45	
09	10.2	12	210	---	100	4.00	5.0	2.30	
10	---	11.7	12	(210)	---	100	4.30	4.7	2.30
11	---	13.0	12	(210)	---	100	4.40	5.6	2.30
12	(420)	13.6	12	205	---	100	4.30	5.3	2.30
13	(420)	13.8	12	(210)	---	100	4.25	5.3	2.30
14	(405)	15.0	12	(220)	---	100	4.10	5.1	(2.40)
15	(370)	>15.0	12	(220)	---	100	3.85	4.9	(2.40)
16	---	>14.9	12	240	---	100	3.50	5.1	(2.40)
17	---	>13.6	12	245	---	100	2.90	3.8	(2.35)
18	---	>13.2	12	270	---	---	---	3.2	---
19	---	>12.9	12	310	---	E	2.1	---	---
20	---	(12.7)	9	(370)	---	E	2.8	---	---
21	---	>12.8	10	(370)	---	---	2.1	---	---
22	---	>12.8	9	(350)	---	---	2.4	---	---
23	---	>13.0	9	330	---	---	2.7	---	---

Time: 0.0°.

Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

* Observations taken 1 through 13 only.

Table 58

Bangui, French Equatorial Africa (4.6° N, 18.6° E)									
									July 1958
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	(8.6)	1	280				2.5	---	---
01	(8.4)	2	280				2.5	---	---
02	(7.7)	5	(250)				3.2	(2.90)	
03	(6.5)	9	240				3.1	(2.95)	
04	6.2	18	230				2.9	2.95	
05	5.8	22	240				3.0	2.90	
06	---	8.4	24	275	---	(1.75)	4.3	2.80	
07	---	12.1	29	250	110	3.00	5.5	2.85	
08	---	13.5	28	240	105	3.50	5.3	2.80	
09	---	14.2	28	225	105	3.95	4.7	2.65	
10	---	14.2	26	220	---	105	4.10	4.8	2.50
11	---	(13.8)	28	215	---	105	4.20	4.8	2.25
12	---	>12.5	24	210	---	105	4.25	4.5	---
13	---	>11.3	17	210	---	105	4.20	4.6	---
14	---	>11.1	18	210	---	105	4.00	---	---
15	---	>11.0	20	220	---	105	3.80	3.9	---
16	---	>11.2	24	240	---	110	3.40	3.7	---
17	---	>11.2	27	255	---	<115	2.80	3.2	---
18	---	(11.5)	25	295	---	(1.40)	3.1	---	---
19	---	>11.0	23	360	---	---	2.2	---	---
20	---	>10.6	6	(360)	---	---	---	---	---
21	---	(11.5)	3	---	---	---	---	---	---
22	---	---	0	---	---	---	---	2.3	---
23	---	>9.0	1	(305)	---	---	---	2.4	---

Time: 15.0°E.

Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 60

Tahiti, Society Is. (17.7° S, 149.3° W)								July 1958
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		12.0	13	230	---	----	2.6	3.05
01		10.4	10	225	---	----	2.2	2.95
02		(9.9)	6	240	---	E	2.3	(2.90)
03		7.1	11	220	---	----	2.6	3.10
04		(6.5)	8	235	---	----	2.6	(3.00)
05		(5.0)	9	255	---	----	2.8	(2.95)
06		6.0	12	275	---	(0.90)	3.1	2.90
07		10.4	18	250	125	2.20	3.1	3.10
08	---	12.5	15	245	110	3.10	3.1	3.15
09	(260)	14.5	22	235	105	3.50		3.15
10	(260)	13.7	22	230	---	105 3.75		3.10
11	---	12.6	23	220	---	105 3.85		2.95
12	(295)	11.9	25	220	---	100 3.90		2.80
13	350	12.3	22	225	6.0	105 3.80	3.9	2.80
14	375	12.4	18	230	---	105 3.75	3.8	2.65
15	(355)	13.1	17	240	---	110 3.50		2.65
16	---	13.6	19	250	---	115 3.10	4.0	2.70
17		14.0	21	255	125	2.35	3.1	2.70
18		14.5	20	260	---	----	3.1	2.80
19		15.0	18	255	---	----	3.1	2.80
20		16.1	17	250	---	----	3.1	(2.80)
21		15.9	18	230	---	----	3.1	2.95
22		14.5	17	220	---	----	2.8	3.00
23		(12.5)	9	215	---	E	2.6	(3.00)

Table 61

Port Lockroy (64.8° S, 63.5° W) July 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	2.6	30	375				2.40
01	2.6	29	370				2.40
02	2.7	29	360				2.45
03	2.6	30	360				2.40
04	2.6	29	350				2.40
05	2.4	28	330				2.50
06	2.4	27	310			1.1	2.60
07	2.4	28	290			1.4	2.70
08	3.0	20	260			1.6	2.95
09	5.8	25	220			2.0	3.10
10	7.6	30	215		(2.0)	2.8	3.35
11	8.9	28	<215		(2.1)	2.6	3.35
12	9.2	24	220			2.5	3.35
13	9.0	27	215		2.1	2.1	3.35
14	8.0	29	215		2.0	2.0	3.35
15	7.3	29	220		(1.8)	2.0	3.35
16	6.7	29	210		1.4	1.6	3.25
17	5.6	30	215			1.4	3.20
18	4.0	29	220			>1.0	3.20
19	2.9	27	260			1.5	2.80
20	2.5	27	300			1.2	2.65
21	2.4	28	<340				2.55
22	2.5	29	350				2.40
23	2.6	28	370				2.40

Time: 60.0°W.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 63

Kerquelen I. (49.4° S, 70.3° E) April 1957							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	3.2	19	290		---	---	1.4
01	3.0	16	300		---	---	1.4
02	2.9	15	330		---	---	1.4
03	2.8	14	325				1.4
04	---	2.6	10	350			1.5
05	---	2.6	13	350			2.50
06	---	2.8	14	320			2.50
07	---	5.2	26	260	105	1.80	3.00
08	---	7.0	28	245	---	105	2.50
09	(250)	8.2	29	240	---	105	2.95
10	---	9.2	28	235	---	100	3.20
11	(265)	10.5	25	235	---	100	3.30
12	---	11.0	23	235	---	105	3.45
13	(250)	11.2	19	230	---	105	3.40
14	---	>11.4	18	240	---	105	3.25
15	---	11.0	17	235	---	105	3.10
16	---	11.0	16	235	---	105	2.75
17	---	11.0	17	230	---	2.00	3.05
18	---	10.5	22	230	---	---	1.2
19	---	8.0	29	235	---	---	3.10
20	---	6.6	25	230	---	---	1.5
21	---	4.4	26	240	---	---	1.5
22	---	3.8	22	250	---	150	1.15
23	---	3.8	20	255	---	150	1.3

Time: Local.

Sweep: 0.88 Mc to 14.14 Mc in 10 minutes, automatic operation.

Table 65

Freiburg, Germany (48.1° N, 7.8° E) July 1955							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	4.6	29	270				2.4
01	4.5	29	270				1.6
02	4.1	30	270				1.6
03	3.8	30	270				1.7
04	---	3.6	31	265			1.5
05	320	4.3	31	245	3.10	127	1.85
06	310	4.9	31	235	3.60	111	2.35
07	310	5.1	26	(220)	4.00	111	2.65
08	330	5.4	29	225	4.20	107	2.95
09	325	5.5	27	220	4.40	105	3.15
10	350	5.7	29	210	4.50	103	3.25
11	340	6.0	25	200	4.55	103	3.40
12	350	5.7	27	205	4.55	103	3.35
13	365	5.7	25	(205)	4.55	105	3.35
14	350	5.5	29	(215)	4.50	107	3.30
15	350	5.5	29	210	4.40	105	3.20
16	350	5.5	28	215	4.25	107	3.05
17	325	5.5	26	(220)	4.00	109	2.75
18	310	5.7	27	(240)	3.70	111	2.40
19	280	6.4	27	(260)	---	123	(1.75)
20	---	7.0	31	250			3.4
21	---	6.6	29	240			2.9
22	---	5.8	30	240			2.6
23	---	5.0	31	260			2.4

Time: Local.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 62

Kerquelen I. (49.4° S, 70.3° E) May 1957							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	2.3	17	270		---	---	1.1
01	2.3	22	290				1.2
02	2.2	20	275				1.5
03	2.2	20	300				1.5
04	2.2	21	305		---	---	1.5
05	2.2	13	330		---	---	2.0
06	2.5	17	320		---	---	1.5
07	>3.6	12	300		---	---	2.80
08	6.8	29	245		110	2.15	3.25
09	9.5	29	240		105	2.70	3.25
10	---	10.8	30	230	105	3.00	3.20
11	---	11.4	15	240	105	3.15	(3.10)
12	---	>11.5	3	240	105	3.25	---
13	---	(11.8)	2	230	105	3.20	---
14	---	(11.7)	2	230	105	3.05	---
15	---	>11.4	3	225	105	2.75	---
16	---	---	0	220	---	2.25	---
17	>10.5	9	215		---	---	1.5
18	>10.0	19	220		---	---	1.5
19	>7.5	24	220				3.25
20	4.5	25	220		---	---	3.30
21	3.1	22	240		---	(0.95)	3.20
22	2.7	21	250		---	---	1.1
23	2.4	20	255		---	---	1.4

Time: Local.

Sweep: 0.88 Mc to 14.14 Mc in 10 minutes, automatic operation.

Table 64

Terre Adelle (66.7° S, 140.0° E) April 1957							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	(3.8)	8	270				---
01	(3.1)	5	290				---
02	(3.8)	7	300				---
03	(3.0)	7	295		---	---	1.8
04	(2.5)	3	290		---	---	2.7
05	(3.0)	6	300		---	---	---
06	(3.3)	5	300		---	---	1.6
07	(6.4)	8	290		---	(1.55)	1.8
08	(6.0)	7	260		115	1.65	(2.45)
09	---	(8.1)	6	265	---	1.95	(2.70)
10	---	(9.0)	6	255	---	110	2.30
11	---	(0.0)	7	255	---	110	2.50
12	---	(0.0)	0	255	---	110	2.80
13	---	(8.2)	6	(250)	---	110	---
14	---	(8.0)	4	250	---	110	2.65
15	---	(7.8)	8	255	---	---	2.70
16	---	(8.7)	0	260	---	---	2.50
17	---	(8.5)	11	260	---	---	(2.10)
18	---	8.0	12	260	---	1.60	2.65
19	---	8.0	14	250	---	---	2.60
20	---	(7.7)	11	255	---	---	1.9
21	---	(7.0)	9	255	---	---	---
22	---	(7.1)	6	250	---	---	(2.70)
23	---	(4.9)	7	260	---	---	(2.50)
24	---	(6.2)	4	260	---	---	---

Time: 135.0°E.

Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 66

Freiburg, Germany (48.1° N, 7.8° E) June 1955							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	4.8	30	255				2.2
01	4.6	29	270				2.0
02	4.2	27	270				1.8
03	4.0	30	260				2.0
04	(320)	3.9	30	270	---	---	1.7
05	305	4.5	28	240	3.20	121	1.80
06	320	4.9	28	230	3.75	109	2.30
07	335	5.2	27	220	3.95	105	2.70
08	325	5.5	27	(220)	4.20	103	2.95
09	340	5.6	24	215	4.40	101	3.10
10	330	5.8	28	210	4.40	101	3.20
11	340	5.9	23	205	4.50	101	3.35
12	360	5.7	26	(210)	4.55	101	3.30
13	360	5.5	25	(210)	4.50	103	3.40
14	365	5.5	29	210	4.45	101	3.25
15	355	5.4	28	220	4.30	103	3.20
16	340	5.6	26	220	4.20	103	3.00
17	325	5.8	26	(220)	4.00	105	2.75
18	300	5.8	25	(230)	(3.60)	109	2.35
19	280	6.2	26	(255)	---	119	1.80
20	---	6.6	29	255			3.2
21	---	6.6	28	240			2.6
22	---	5.9	29	240			2.6
23	---	5.4	27	250			1.9

Time: Local.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 67

Freiburg, Germany (48.1° N, 7.8° E)								April 1955
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.1 30	290					2.82
01		3.1 30	290					2.85
02		3.0 29	290					2.88
03		2.9 30	290					2.90
04		2.8 30	270					2.96
05		3.0 30	255					3.17
06	250	3.8 30	240	----	125	1.80		3.32
07	290	4.2 30	230	3.70	115	2.30		3.32
08	300	4.9 29	225	3.85	111	2.70		3.19
09	310	5.1 30	215	4.05	109	2.90		3.24
10	320	5.5 30	210	4.20	109	3.10		3.22
11	300	5.5 29	210	4.30	107	3.15	3.3	3.24
12	310	5.4 29	210	4.30	107	3.20	3.3	3.24
13	315	5.5 30	210	4.30	107	3.15		3.20
14	320	5.6 30	215	4.20	105	3.05		3.15
15	300	5.6 30	230	4.10	109	2.95		3.24
16	290	5.7 30	230	3.90	111	2.70		3.22
17	280	5.8 30	240	3.60	113	2.35		3.22
18	265	6.0 30	250	----	122	1.85	2.2	3.23
19	---	6.2 30	240				1.8	3.21
20		5.6 30	240				1.5	3.17
21		4.6 30	240					3.16
22		3.6 30	235					3.03
23		3.4 30	270					2.90

Time: Local.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 69

Freiburg, Germany (48.1° N, 7.8° E)								February 1955
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.2 28	265					2.96
01		3.2 25	260					3.03
02		3.3 27	255					2.97
03		3.2 24	265					2.96
04		3.1 25	265					3.02
05		2.7 23	260					3.07
06		2.2 25	260					3.08
07		3.4 22	240					3.32
08	230	4.9 26	225	----	121	1.80		3.54
09	240	5.4 24	220	----	116	2.30		3.56
10	245	5.8 27	220	(3.85)	111	2.60		3.55
11	250	6.0 26	205	(3.85)	111	2.75		3.51
12	250	6.0 27	215	(3.95)	111	2.80		3.50
13	245	6.0 25	215	3.90	111	2.80		3.52
14	250	5.8 28	220	----	111	2.70		3.47
15	245	6.0 23	230	----	115	2.45		3.43
16	240	5.8 27	230	----	121	2.05		3.48
17	---	5.4 26	225				1.8	3.51
18		4.6 28	225					3.28
19		4.5 25	230					3.26
20		3.9 27	235					3.20
21		3.4 24	240					3.15
22		3.3 25	255					3.03
23		3.2 24	265					2.94

Time: Local.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 71

Lulea, Sweden (65.6° N, 22.1° E)								May 1953
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.7 20	260				2.5	
01								
02		3.5 16	255		---	---	3.0	
03								
04	(340)	4.0 24	240	3.5	130	2.0	2.6	
05								
06	375	4.1 20	235	3.7	110	2.5		
07								
08	350	4.2 18	210	4.0	110	2.8	3.0	
09								
10	350	5.0 18	210	4.1	110	3.0	3.1	
11								
12	340	4.7 19	200	4.0	110	3.0	3.5	
13								
14	325	4.5 16	210	4.0	110	3.0		
15								
16	350	4.5 22	225	3.7	110	2.6		
17								
18	(315)	5.0 24	240	3.5	115	2.3	2.6	
19								
20		4.5 24	240		---	E	2.2	
21								
22		4.0 21	250		---	---	3.0	
23								

Time: 15.00E.

Sweep: 1.5 Mc to 10.0 Mc in 9 minutes, automatic operation.

Table 68

Freiburg, Germany (48.1° N, 7.8° E)								March 1955
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.1 31	275					2.89
01		3.0 31	280					2.89
02		2.9 31	270					2.90
03		2.9 31	275					2.91
04		2.9 31	270					2.96
05		2.5 31	255					3.13
06	---	2.9 31	240		---	---		3.19
07	250	4.1 30	230	----	121	1.75	1.8	3.44
08	245	4.6 31	220	3.40	117	2.20	2.2	3.48
09	265	5.1 30	210	3.80	111	2.55	2.6	3.50
10	270	5.5 31	205	4.00	109	2.80	2.9	3.43
11	280	5.8 30	205	4.10	109	2.90		3.36
12	295	5.7 31	205	4.15	107	3.00		3.32
13	275	5.8 30	210	4.10	107	3.00		3.34
14	275	5.9 31	220	4.00	111	2.90		3.36
15	270	5.7 29	220	3.90	113	2.70		3.38
16	260	5.5 31	235	3.60	113	2.35		3.39
17	255	5.5 31	240	----	121	2.00	2.0	3.37
18	---	5.4 30	235		---	---	1.6	3.33
19		5.2 31	230					3.13
20		4.7 31	235					3.14
21		4.0 31	245					3.12
22		3.4 31	255					3.01
23		3.2 31	280					2.89

Time: Local.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 70

Freiburg, Germany (48.1° N, 7.8° E)								January 1955
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.2 30	250					3.03
01		3.2 30	255					2.98
02		3.2 31	260					3.00
03		3.1 31	270					3.00
04		2.7 29	255					3.10
05		2.4 29	240					3.24
06		2.4 30	235					3.26
07		2.5 31	240					3.22
08	---	4.8 29	220		---	1.55	1.7	3.60
09	---	5.8 29	220		120	2.00		3.69
10	225	5.9 31	225	---	113	2.40		3.66
11	230	6.2 28	230	---	115	2.60		3.65
12	235	6.1 31	220	---	117	2.60		3.61
13	235	5.9 30	225	---	122	2.60		3.58
14	235	5.6 28	230		118	2.40		3.63
15	235	5.4 29	230		121	2.15		3.50
16		5.1 31	220		121	1.70	1.9	3.55
17		4.5 28	220				1.6	3.43
18		3.8 30	230				1.6	3.30
19		3.1 31	230				1.7	3.32
20		3.0 29	245				1.7	3.14
21		3.2 30	250					3.09
22		3.2 29	260					3.09
23		3.3 31	250					3.09

Time: Local.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

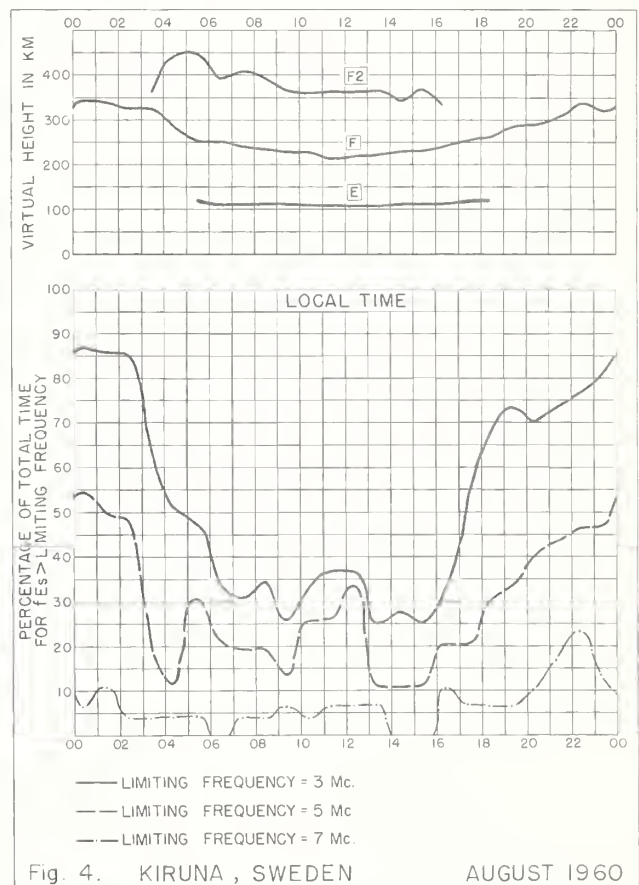
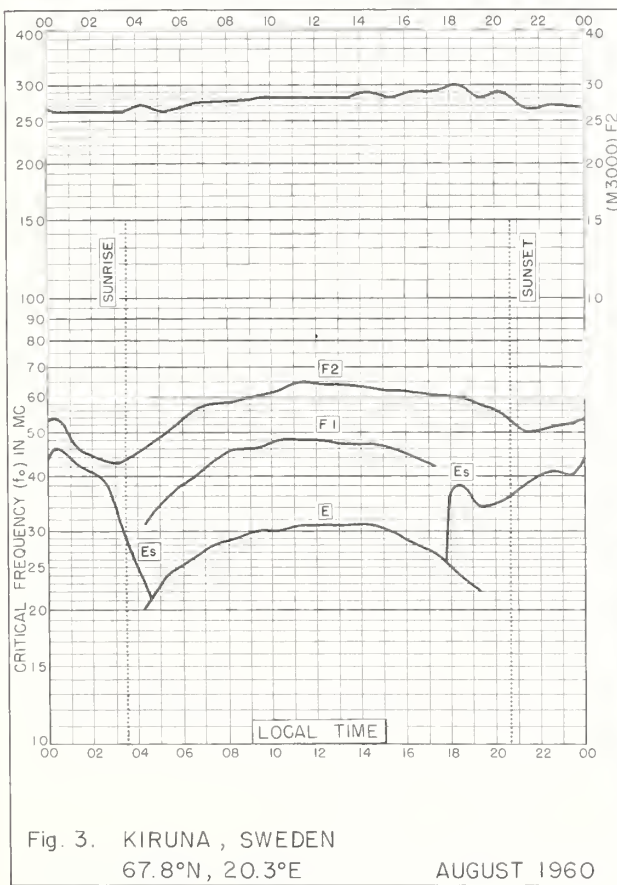
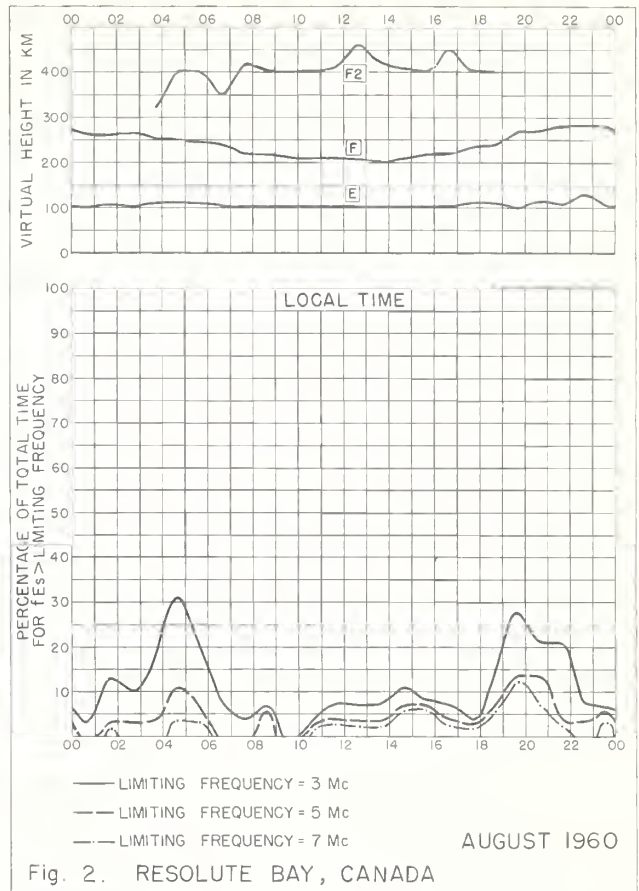
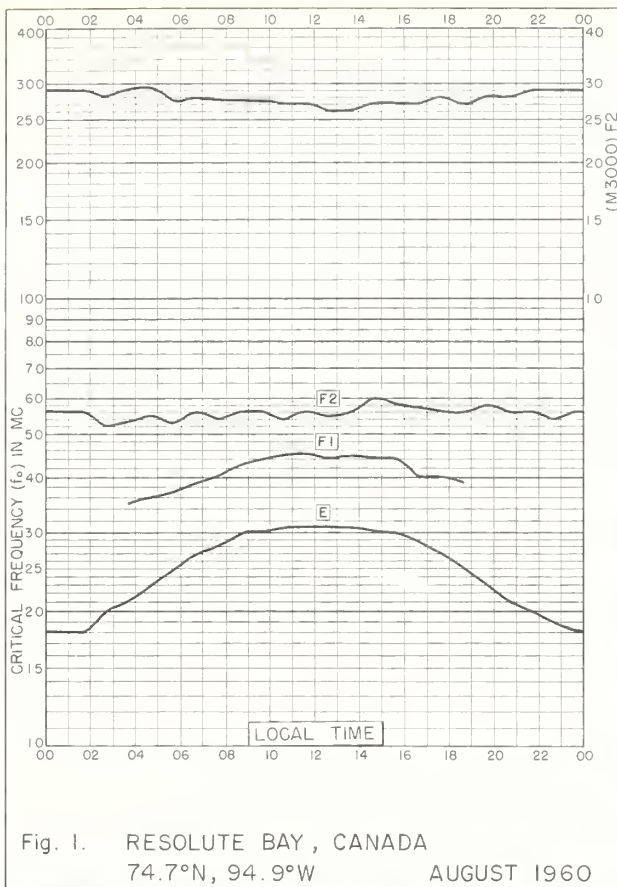
Table 72

Lulea, Sweden (65.6° N, 22.1° E)								December 1952
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(2.4)	4 (370)				3.0	
01								
02		(2.2)	6	---			2.0	
03								
04		(2.0)	5	---			2.4	
05								
06		(2.0)	3	---				
07								
08		2.3	15	---				
09								
10		4.3	18	205	---	1.7	2.6	
11								
12	---	5.1	22	205	---	---	2.2	
13								
14		4.0	18	200				
15								
16		(2.5)	11	230				
17								
18		(2.0)	5	---			2.8	
19								
20		(2.5)	1	(325)			2.5	
21								
22		(3.0)	5	(295)			3.0	
23								

Time: 15.00E.

Sweep: 1.5 Mc to 10.0 Mc in 9 minutes, automatic operation.

USCOMM-NFS-BL



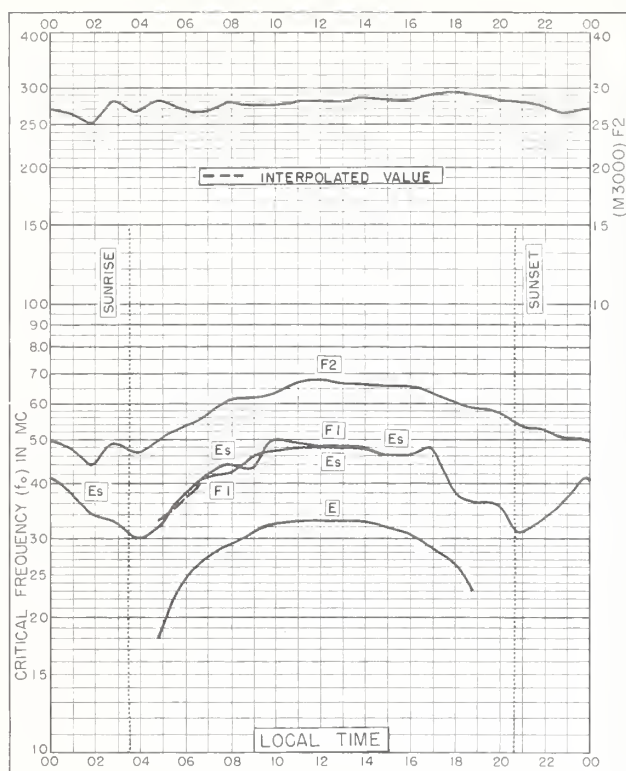


Fig. 5. SODANKYLA, FINLAND
67.4°N, 26.6°E

AUGUST 1960

NBS 503

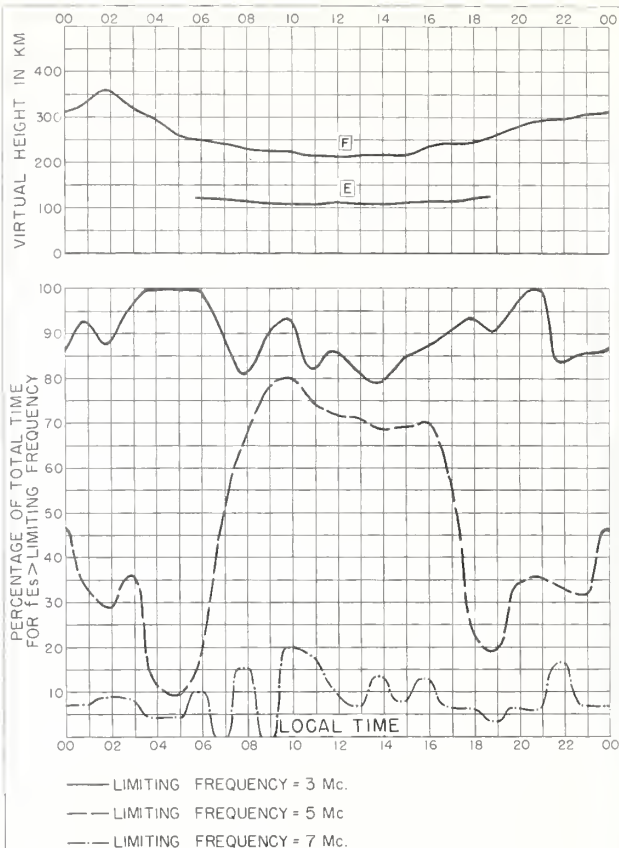


Fig. 6. SODANKYLA, FINLAND AUGUST 1960

NBS 490

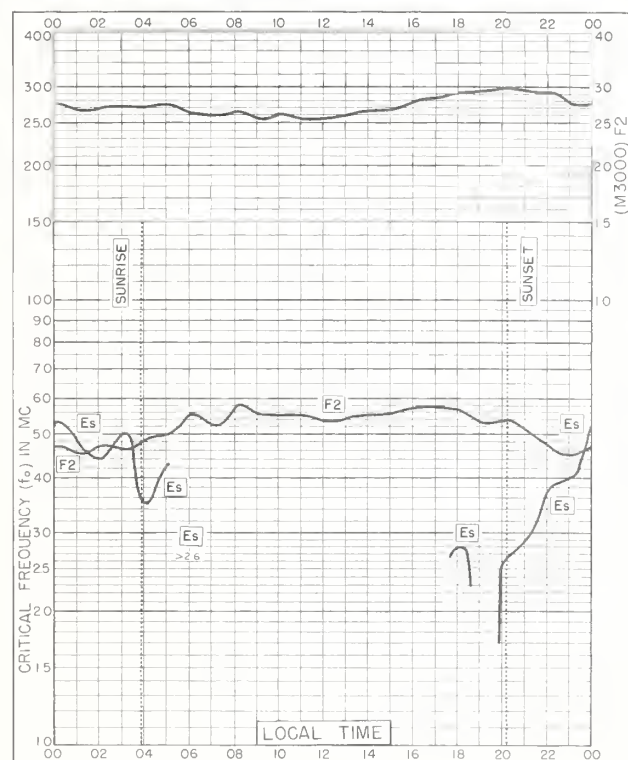


Fig. 7. FAIRBANKS, ALASKA
64.9°N, 147.8°W

AUGUST 1960

NBS 503

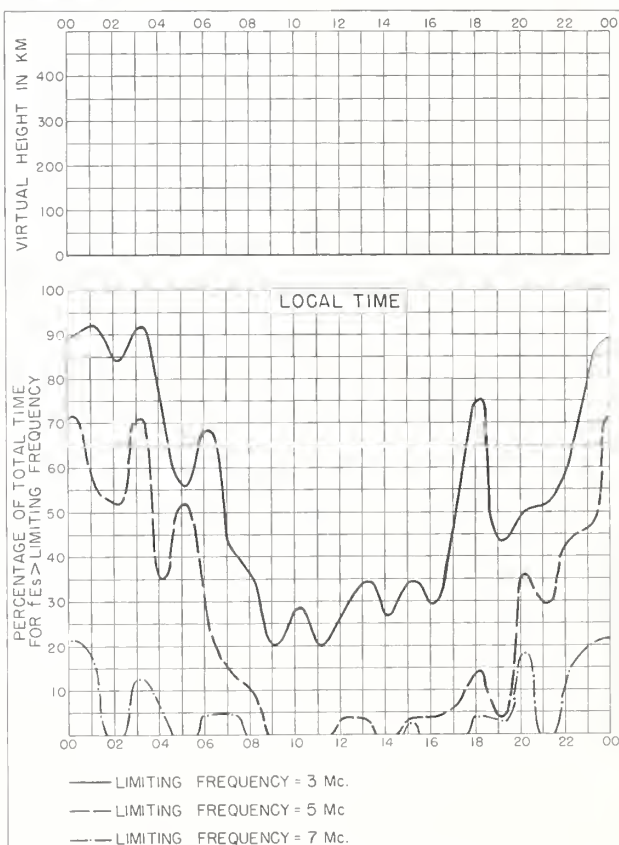


Fig. 8. FAIRBANKS, ALASKA AUGUST 1960

NBS 490

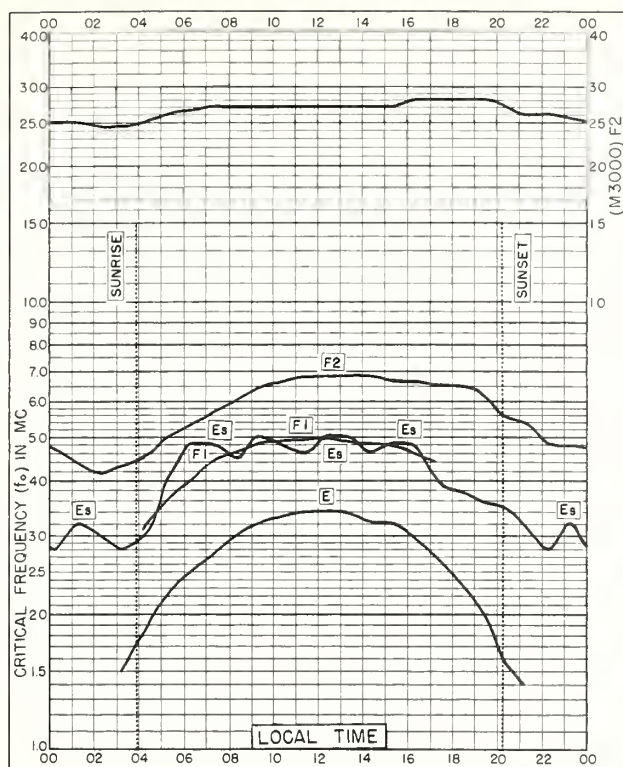


Fig. 9. LYCKSELE, SWEDEN
64.6°N, 18.8°E

AUGUST 1960

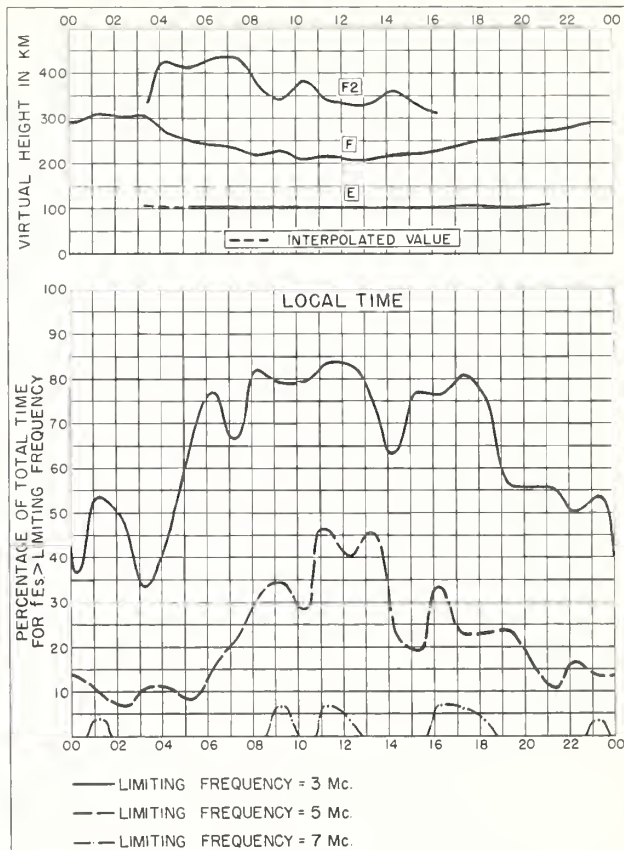


Fig. 10. LYCKSELE, SWEDEN

AUGUST 1960

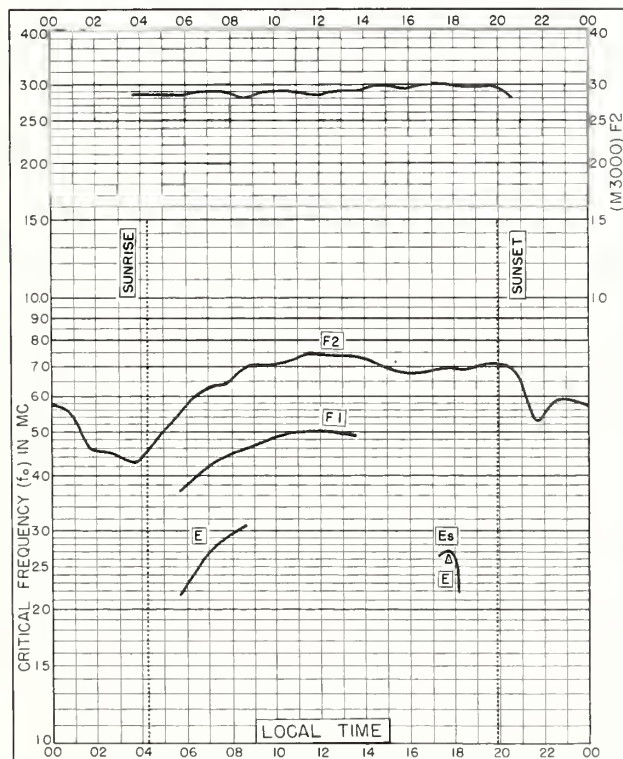


Fig. 11. NURMIJARVI, FINLAND
60.5°N, 24.6°E

AUGUST 1960

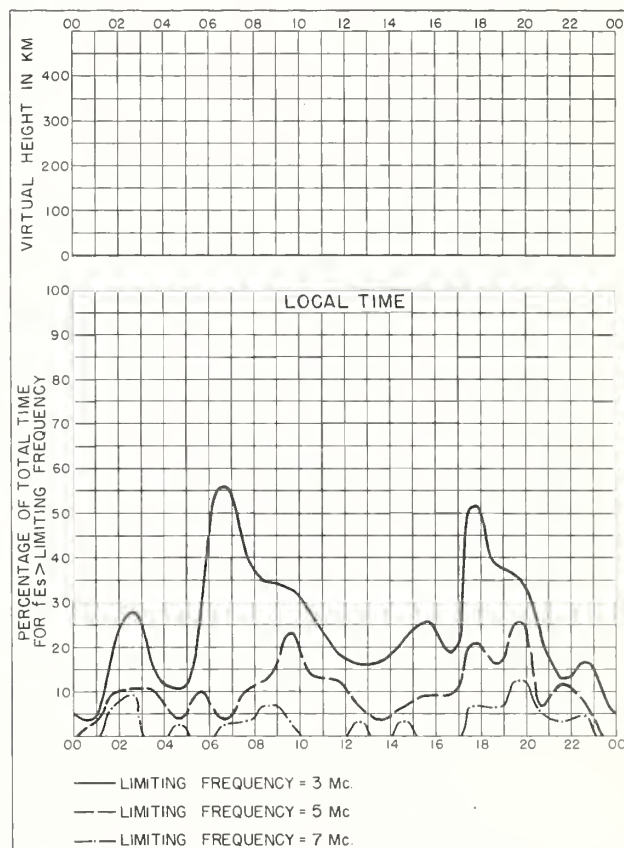


Fig. 12. NURMIJARVI, FINLAND

AUGUST 1960

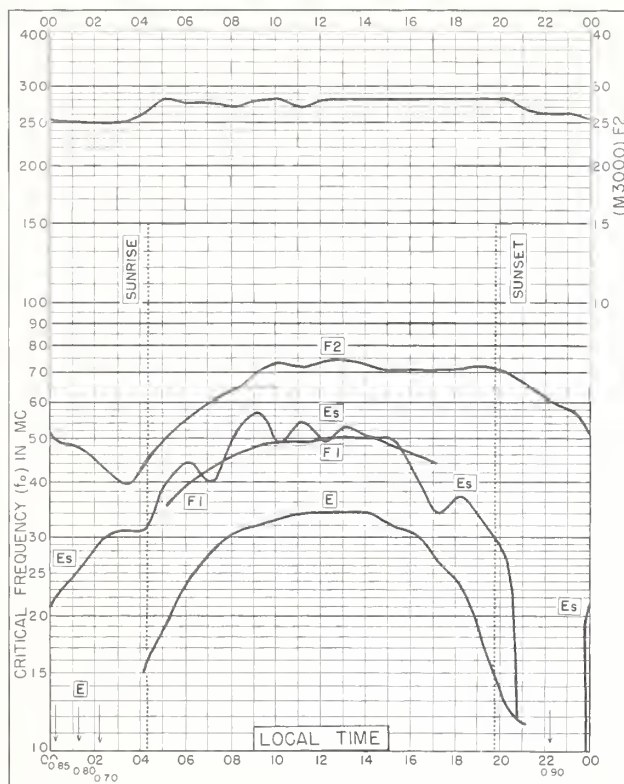


Fig. 13. UPSALA, SWEDEN
59.8°N, 17.6°E

AUGUST 1960

NBS 503

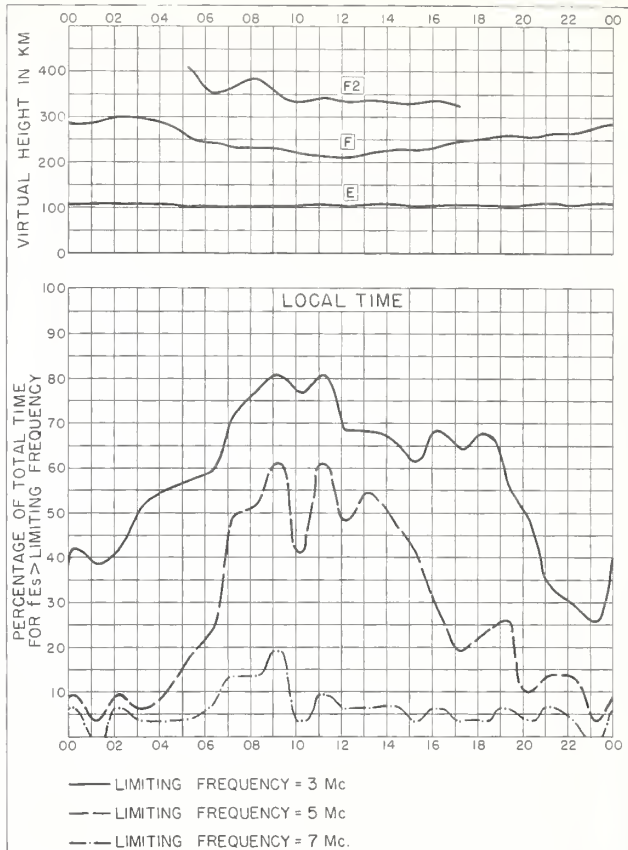


Fig. 14. UPSALA, SWEDEN

AUGUST 1960

NBS 490

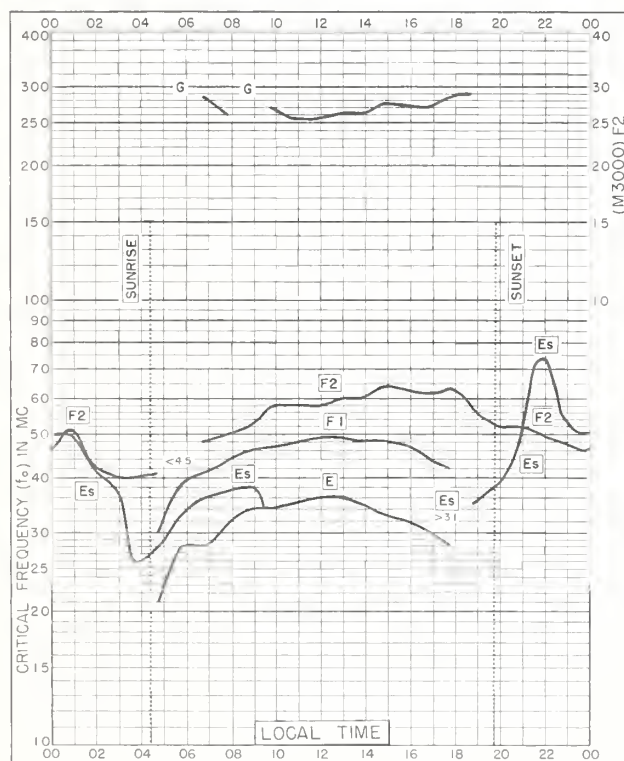


Fig. 15. CHURCHILL, CANADA
58.8°N, 94.2°W

AUGUST 1960

NBS 503

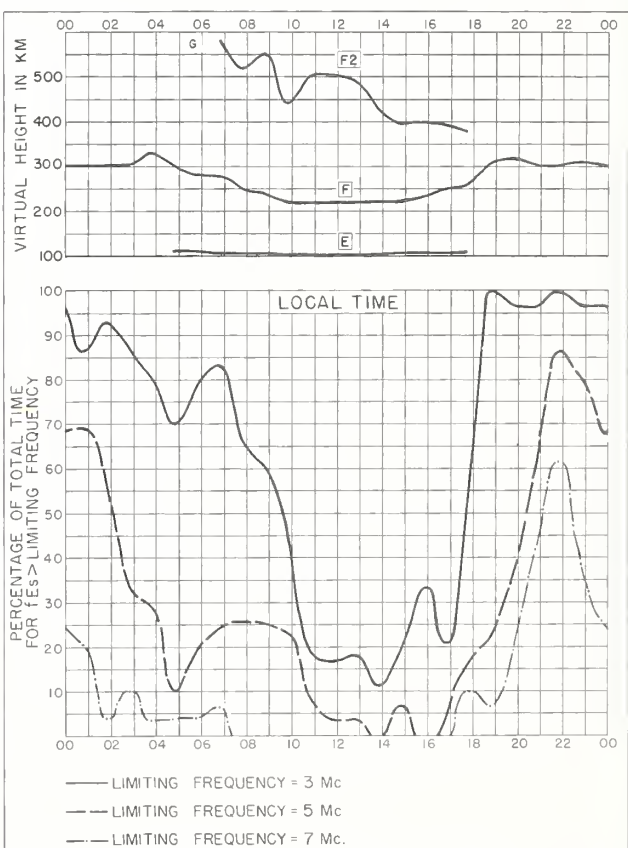


Fig. 16. CHURCHILL, CANADA

AUGUST 1960

NBS 490

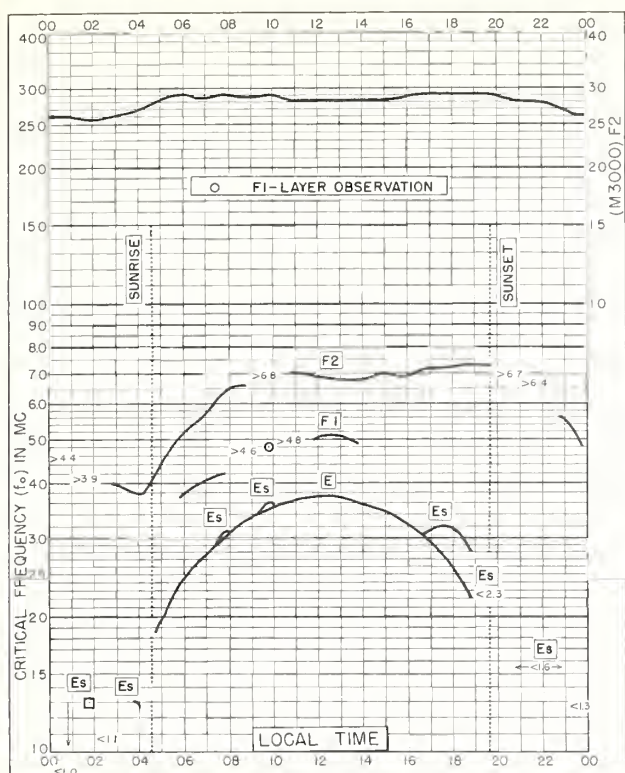


Fig. 17. INVERNESS, SCOTLAND

57.4°N, 4.2°W

AUGUST 1960

NBS 503

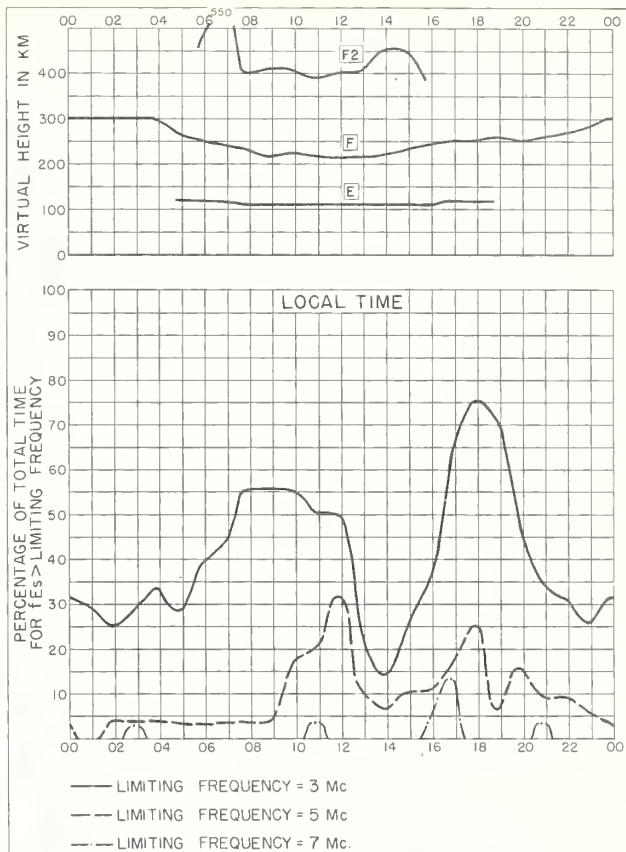


Fig. 18. INVERNESS, SCOTLAND

AUGUST 1960

NBS 490

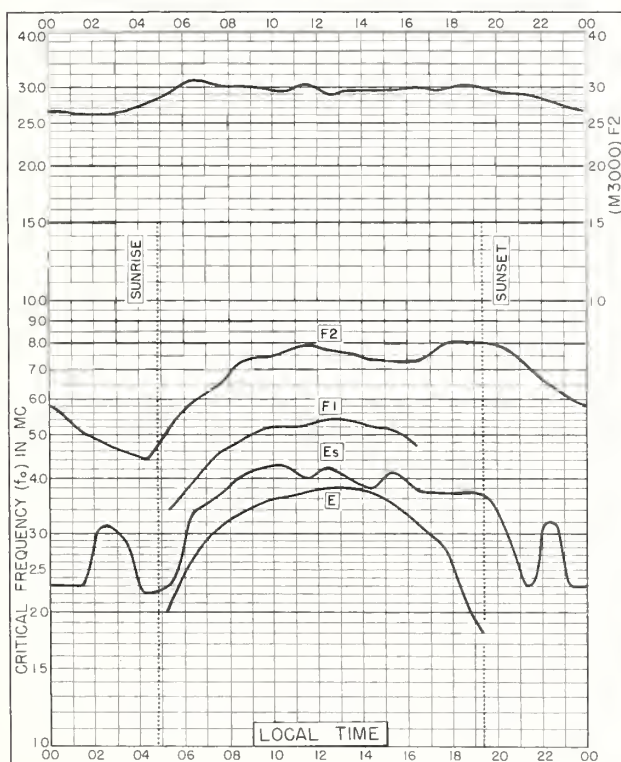


Fig. 19. De BILT, HOLLAND

52.1°N, 5.2°E

AUGUST 1960

NBS 503

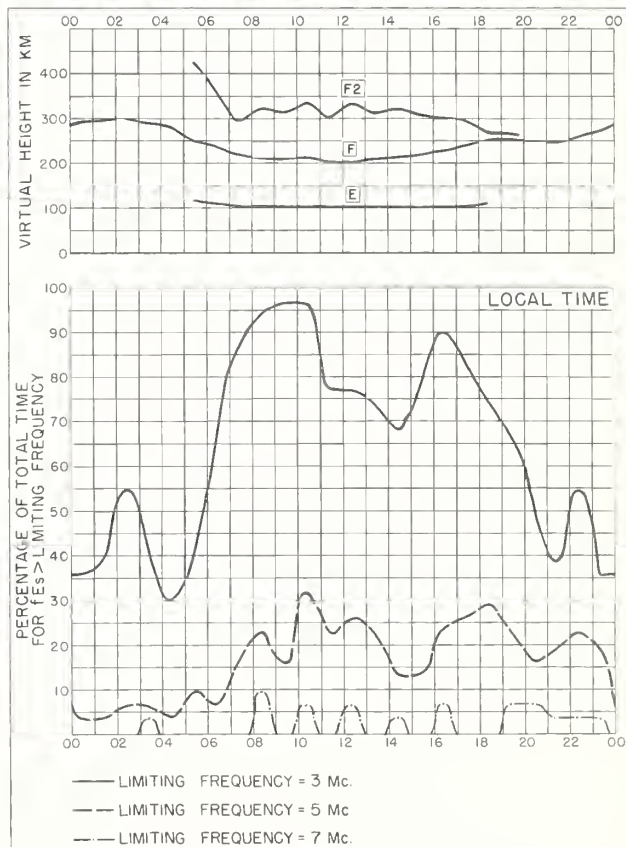


Fig. 20. De BILT, HOLLAND

AUGUST 1960

NBS 490

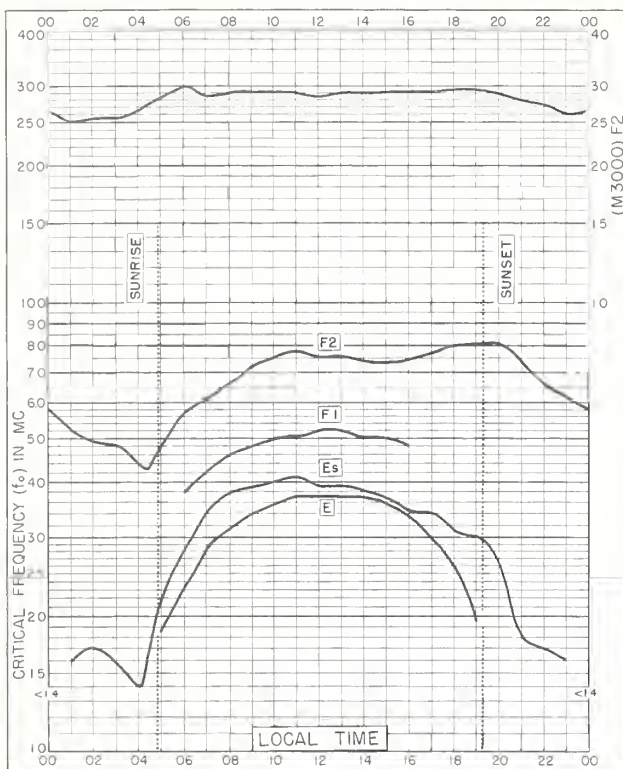


Fig. 21. SLOUGH, ENGLAND
51.5°N, 0.6°W

AUGUST 1960

NBS 503

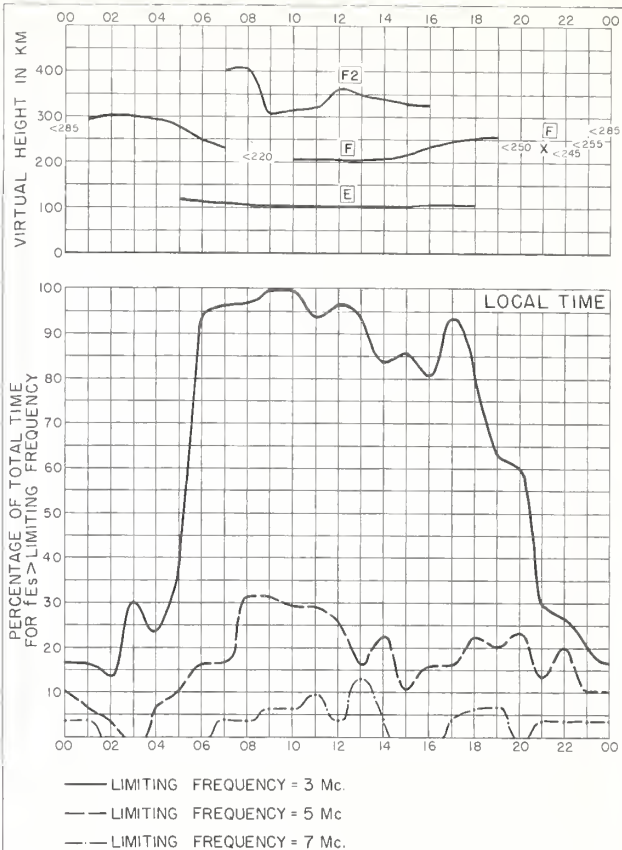


Fig. 22. SLOUGH, ENGLAND

AUGUST 1960

NBS 490

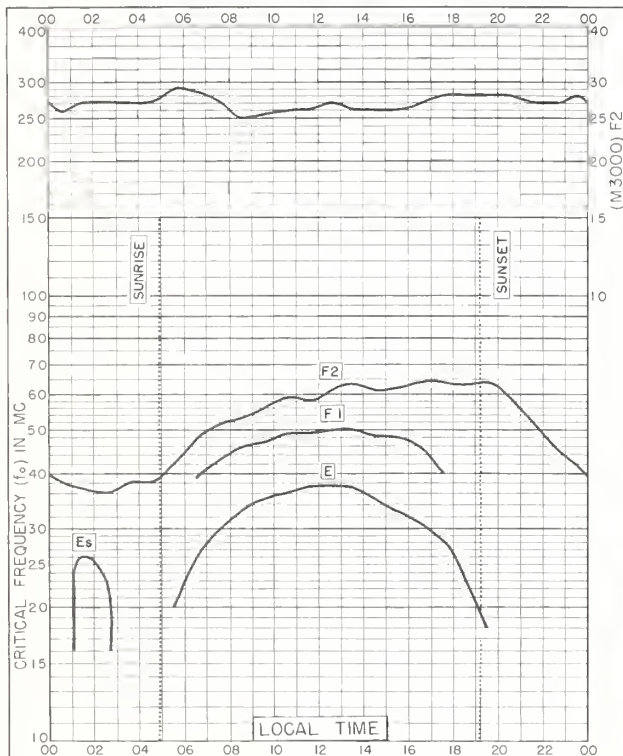


Fig. 23. WINNIPEG, CANADA
49.9°N, 97.4°W

AUGUST 1960

NBS 503

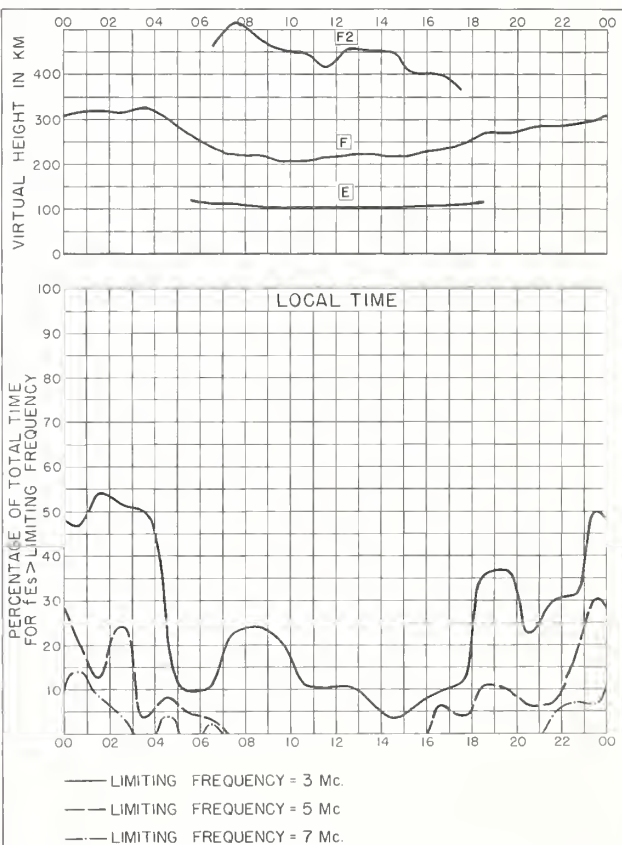


Fig. 24. WINNIPEG, CANADA

AUGUST 1960

NBS 490

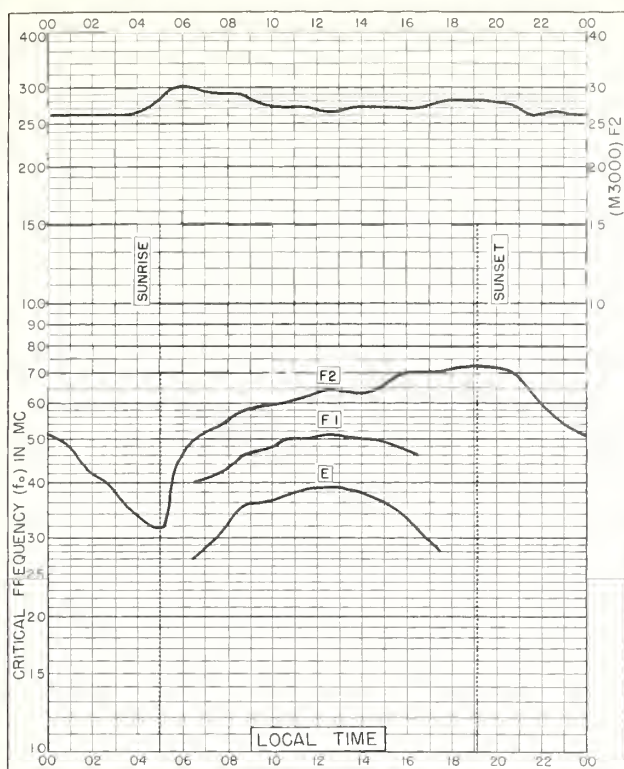


Fig 25. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W
AUGUST 1960

NBS 503

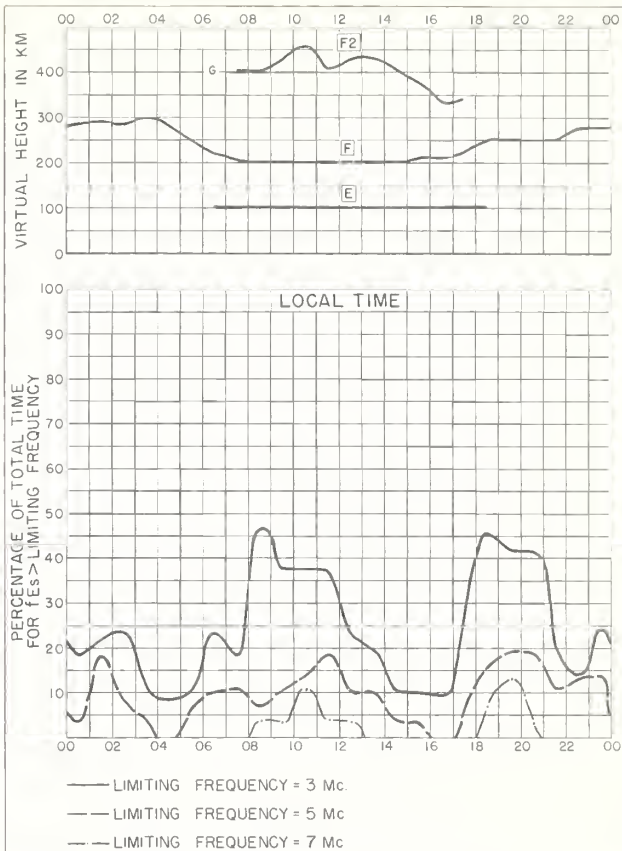


Fig. 26. ST. JOHN'S, NEWFOUNDLAND AUGUST 1960

NBS 490

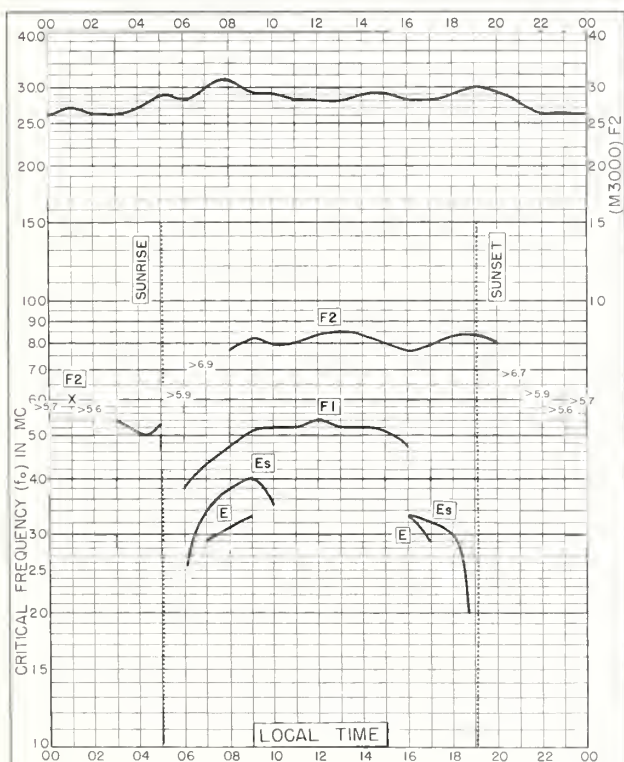


Fig. 27. GRAZ, AUSTRIA
47.1°N, 15.5°E
AUGUST 1960

NBS 503

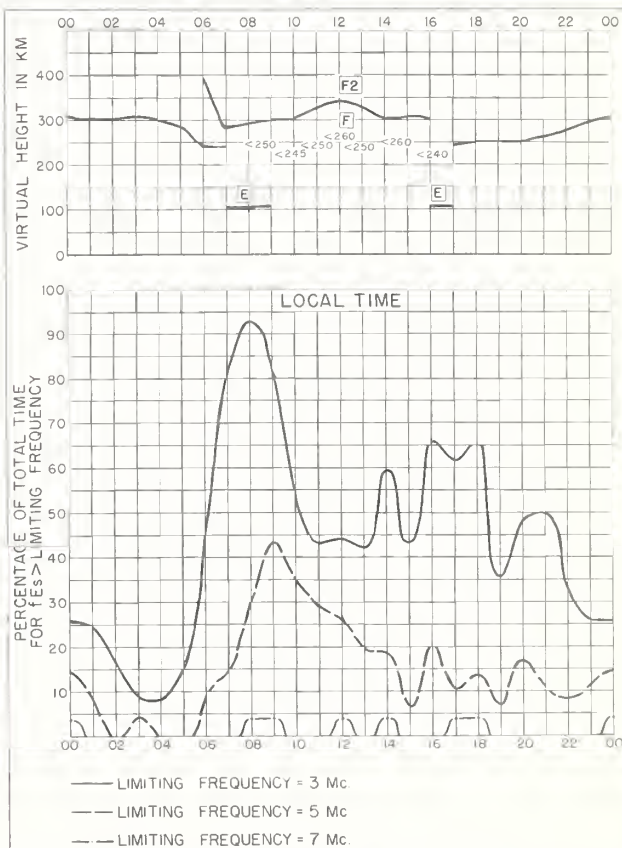


Fig. 28. GRAZ, AUSTRIA
AUGUST 1960

NBS 490

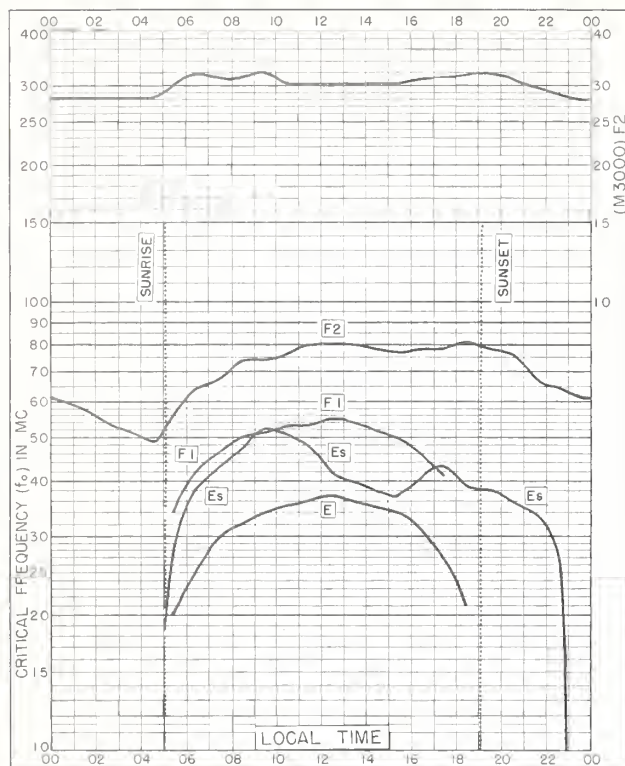


Fig. 29. SOTTENS, SWITZERLAND
46.6°N, 6.7°E

AUGUST 1960

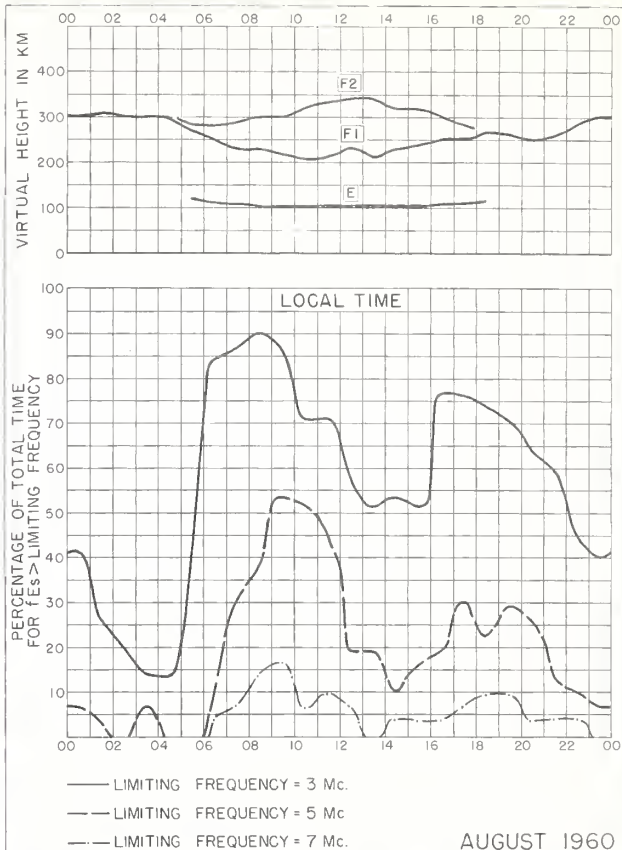


Fig. 30. SOTTENS, SWITZERLAND

AUGUST 1960

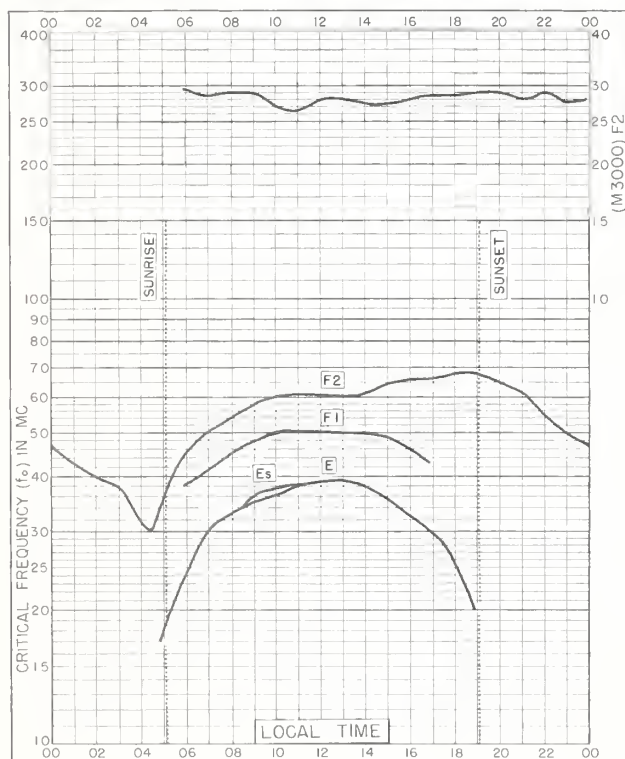


Fig. 31. OTTAWA, CANADA
45.4°N, 75.9°W

AUGUST 1960

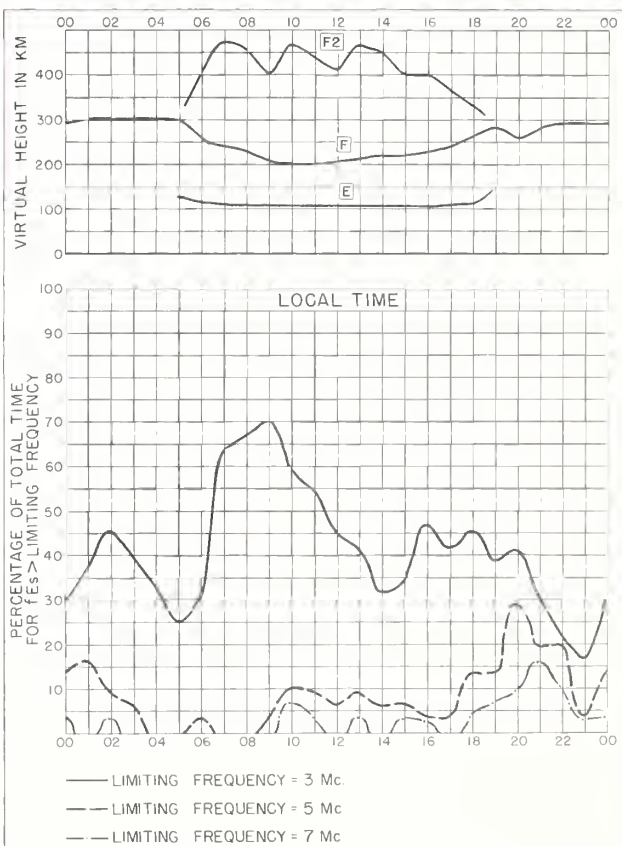


Fig. 32. OTTAWA, CANADA

AUGUST 1960

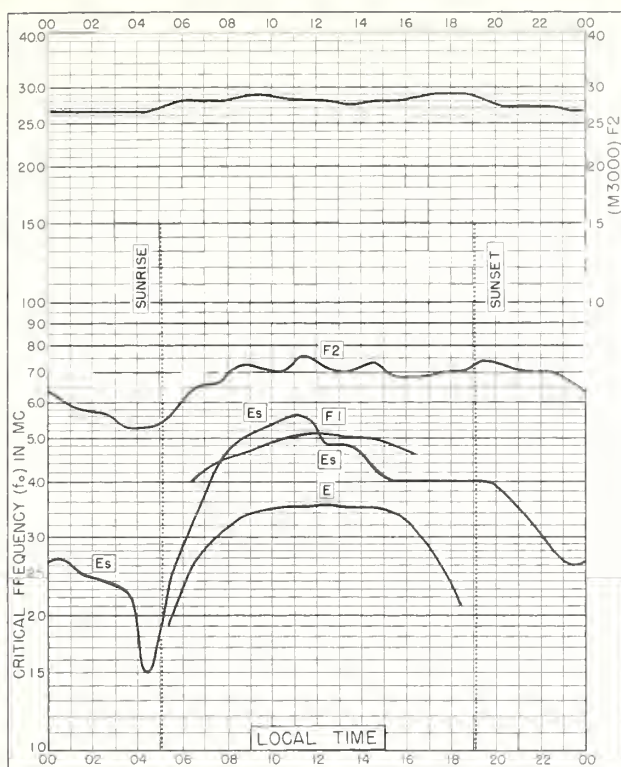


Fig. 33. WAKKANAI, JAPAN
45.4°N, 141.7°E

AUGUST 1960

NBS 503

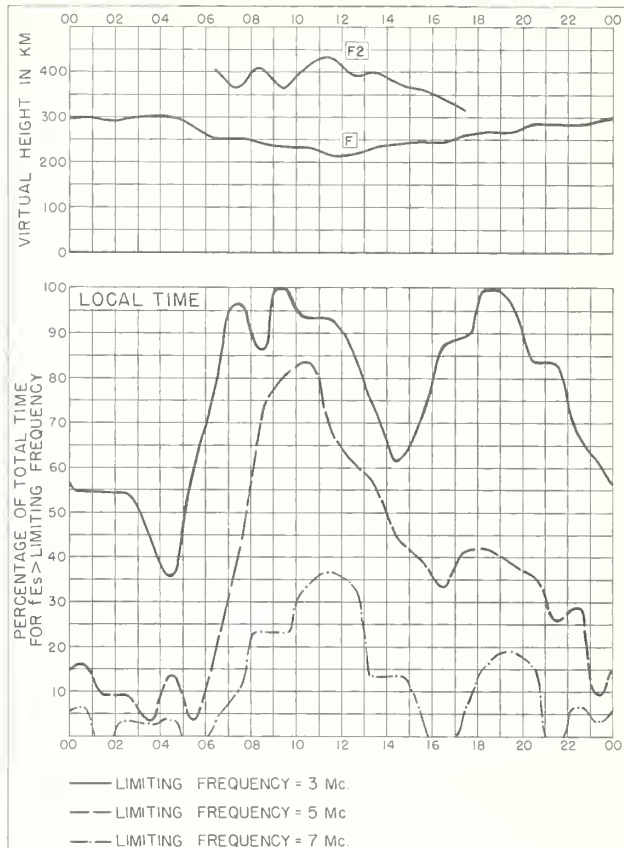


Fig. 34. WAKKANAI, JAPAN

AUGUST 1960

NBS 490

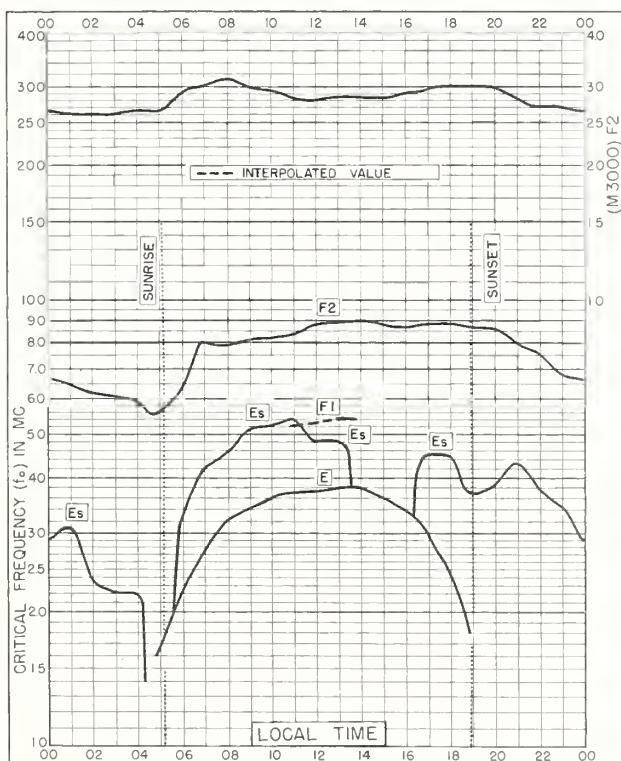


Fig. 35. ROME, ITALY
41.8°N, 12.5°E

AUGUST 1960

NBS 503

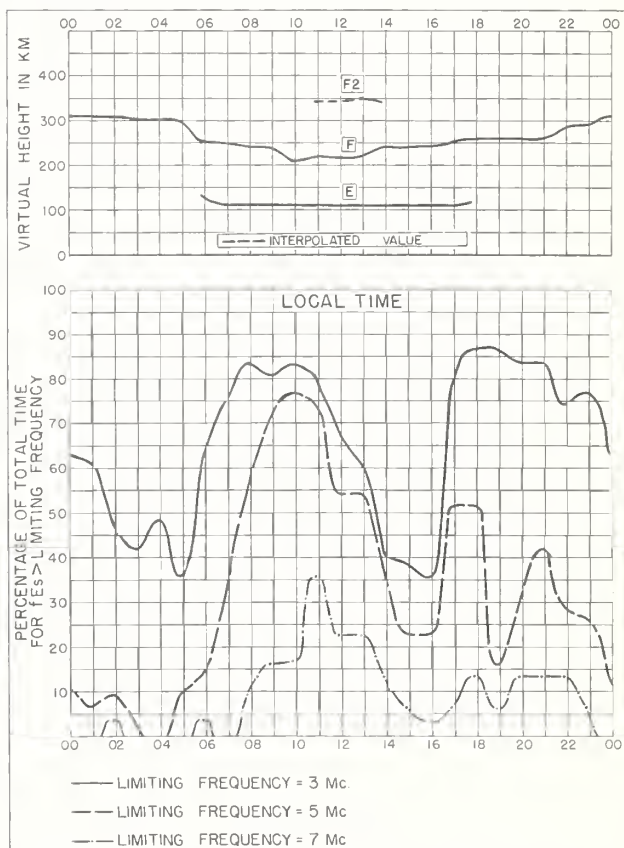


Fig. 36. ROME, ITALY

AUGUST 1960

NBS 490

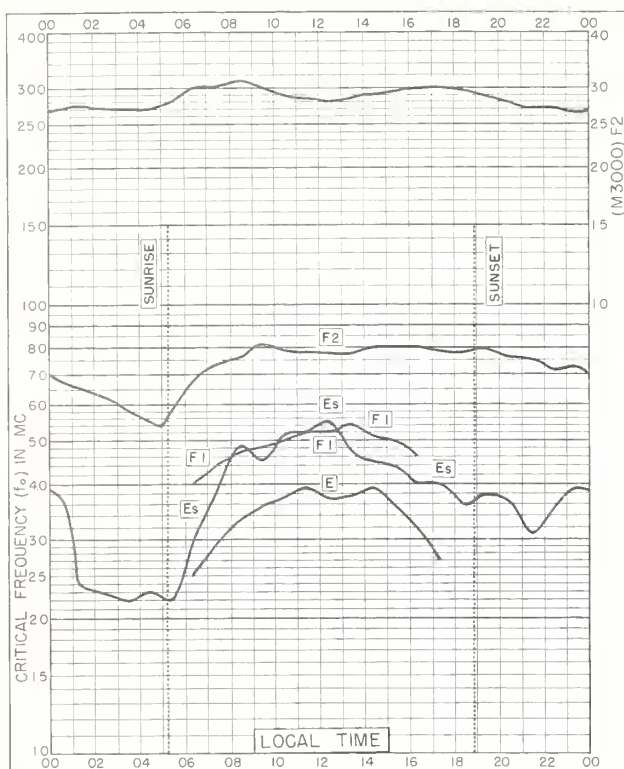


Fig. 37. AKITA, JAPAN
39.7°N, 140.1°E

AUGUST 1960

NBS 503

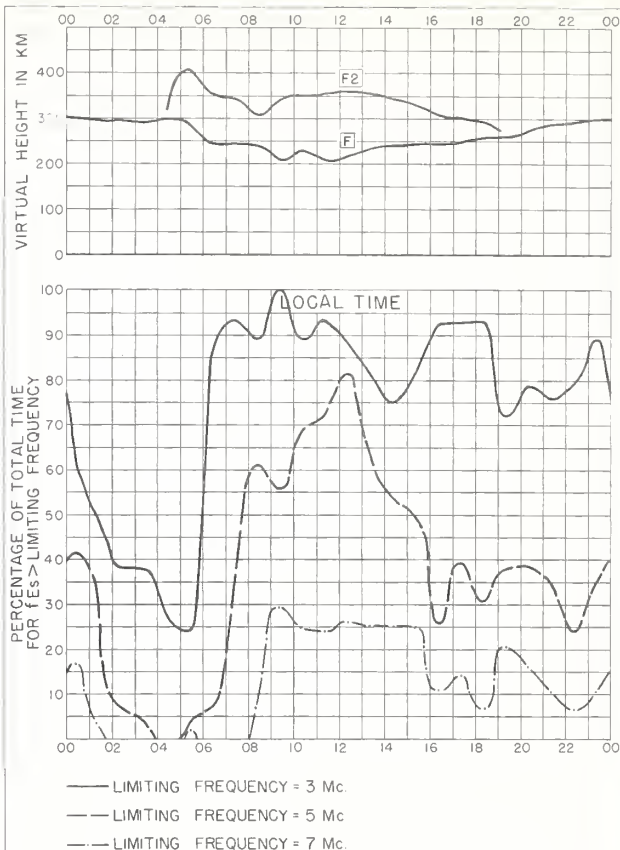


Fig. 38. AKITA, JAPAN

AUGUST 1960

NBS 490

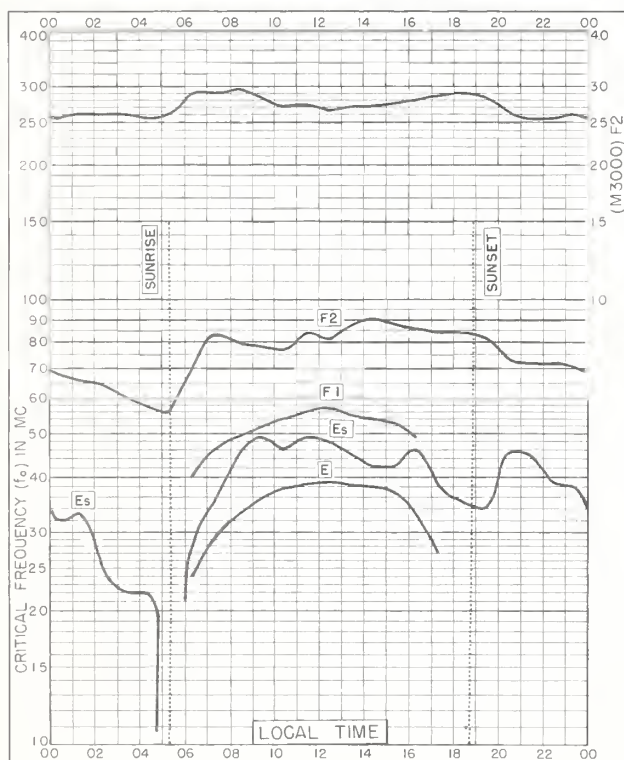


Fig. 39. TOKYO, JAPAN
35.7°N, 139.5°E

AUGUST 1960

NBS 503

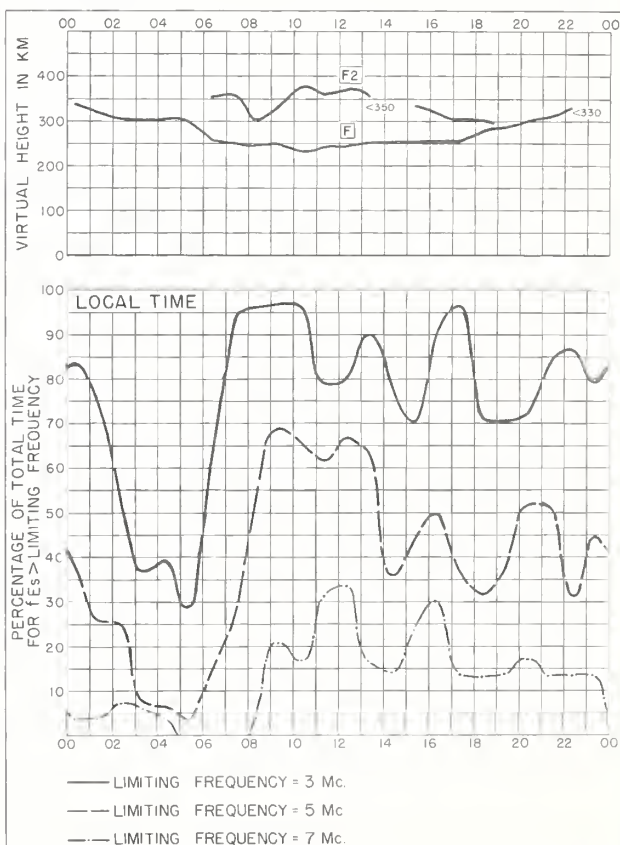


Fig. 40. TOKYO, JAPAN

AUGUST 1960

NBS 490

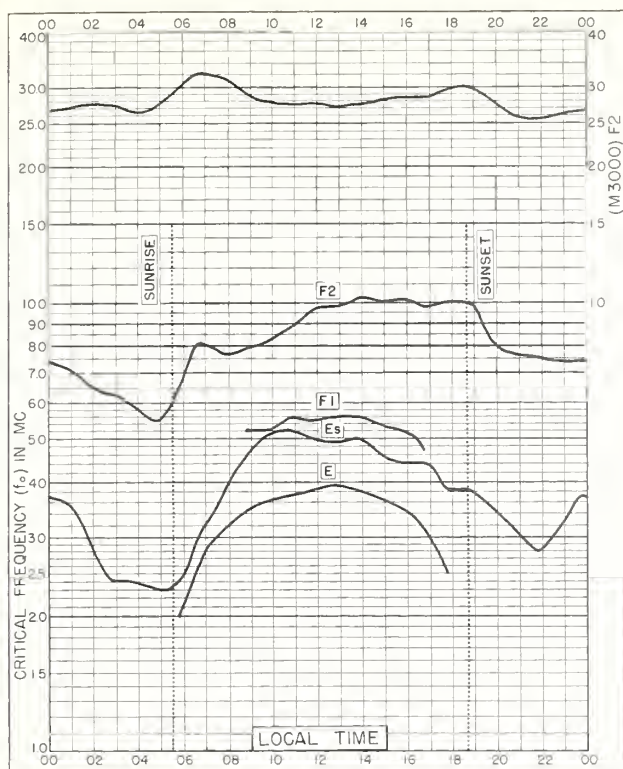


Fig. 41. YAMAGAWA, JAPAN
31.2°N, 130.6°E

AUGUST 1960

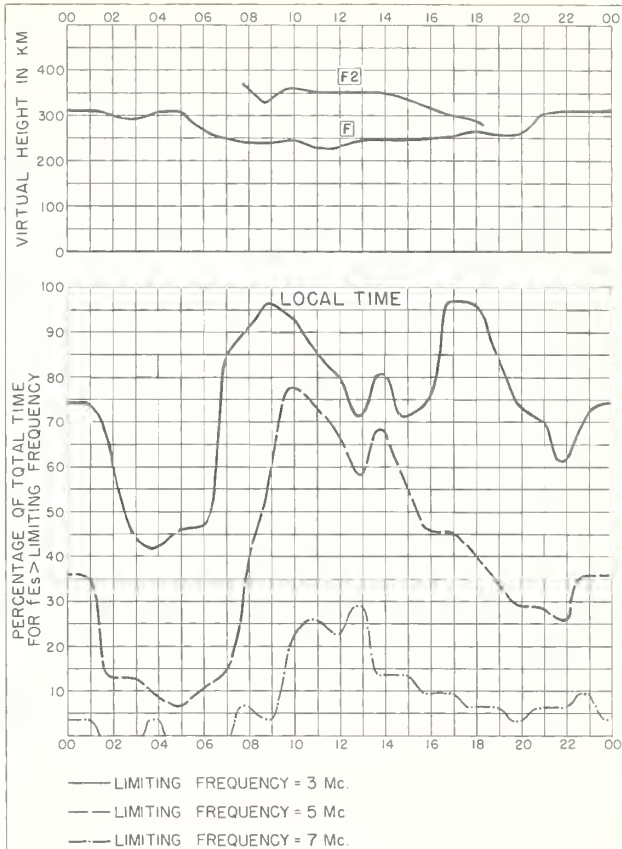


Fig. 42. YAMAGAWA, JAPAN

AUGUST 1960

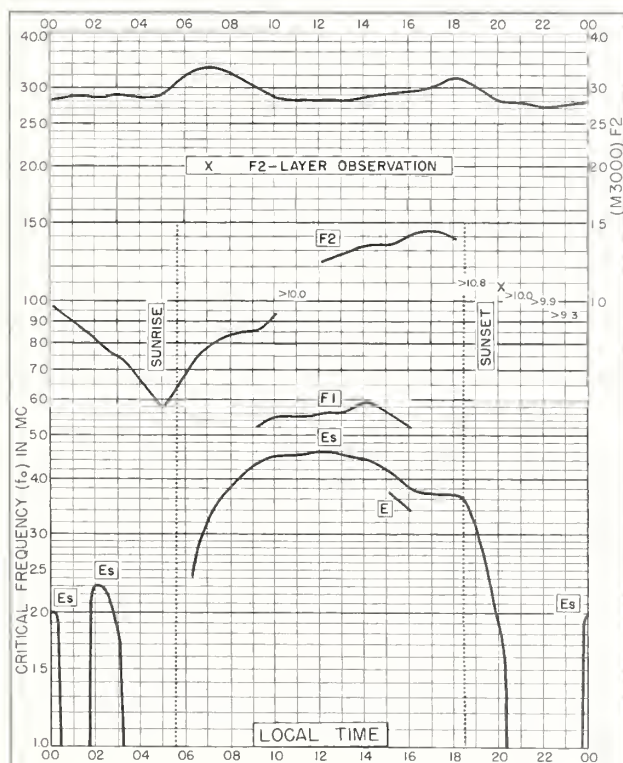


Fig. 43. FORMOSA, CHINA
25.0°N, 121.5°E

AUGUST 1960

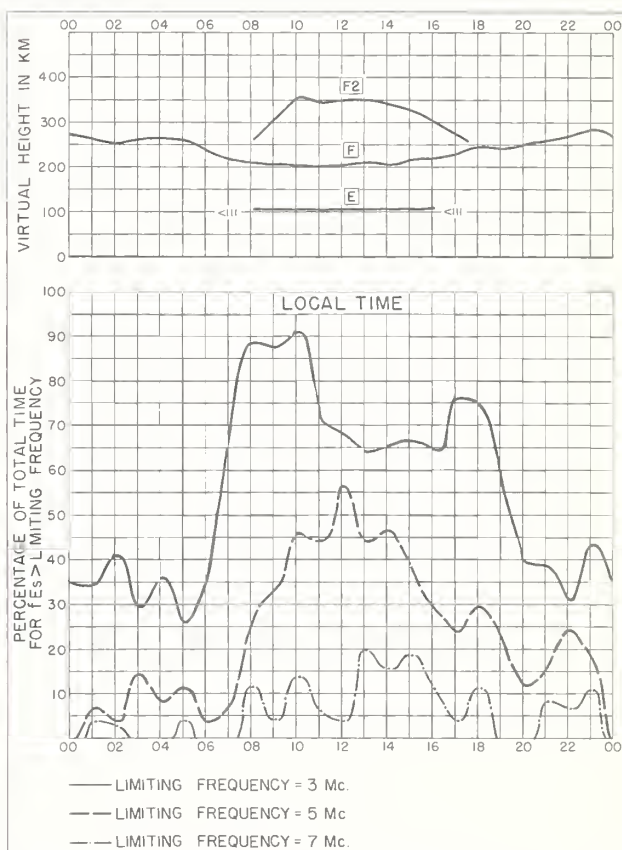


Fig. 44. FORMOSA, CHINA

AUGUST 1960



Fig. 45. EL CERILLO, MEXICO
19.3°N, 99.5°W

AUGUST 1960

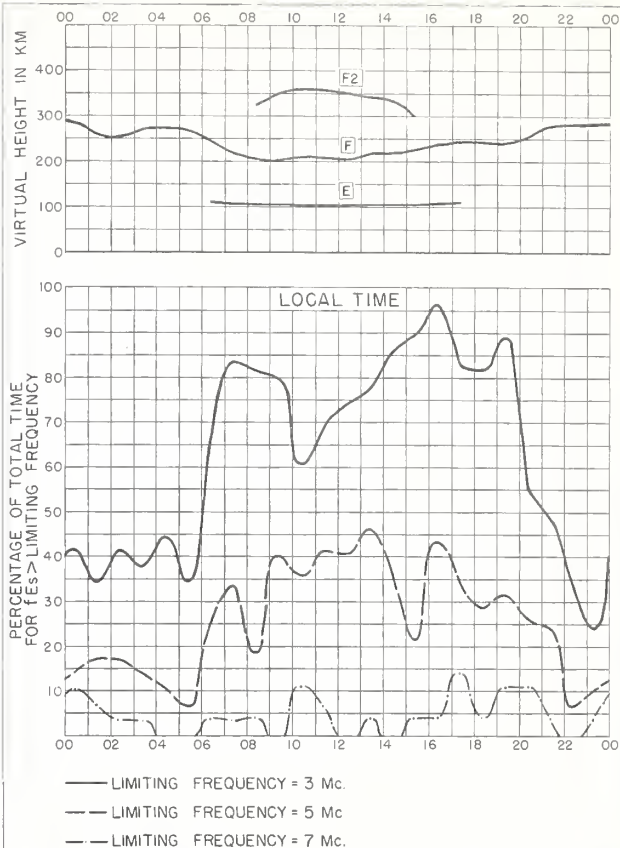


Fig. 46. EL CERILLO, MEXICO

AUGUST 1960

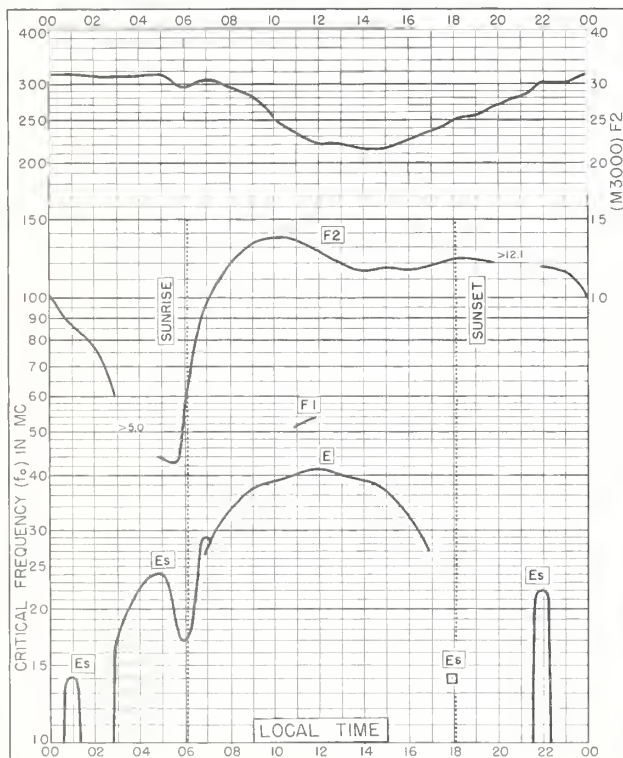


Fig. 47. SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E

AUGUST 1960

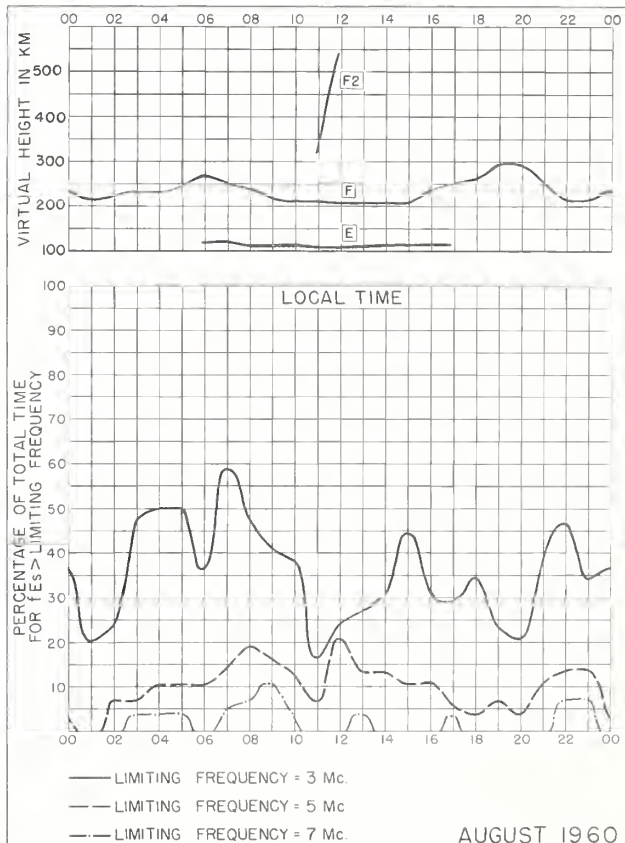


Fig. 48. SINGAPORE, BRITISH MALAYA

AUGUST 1960

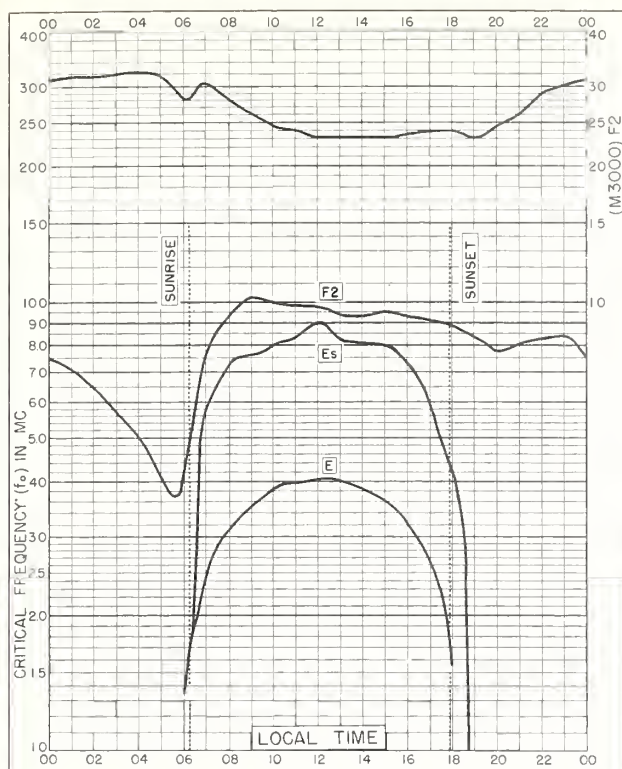


Fig. 49. HUANCAYO, PERU
12.0°S, 75.3°W

AUGUST 1960

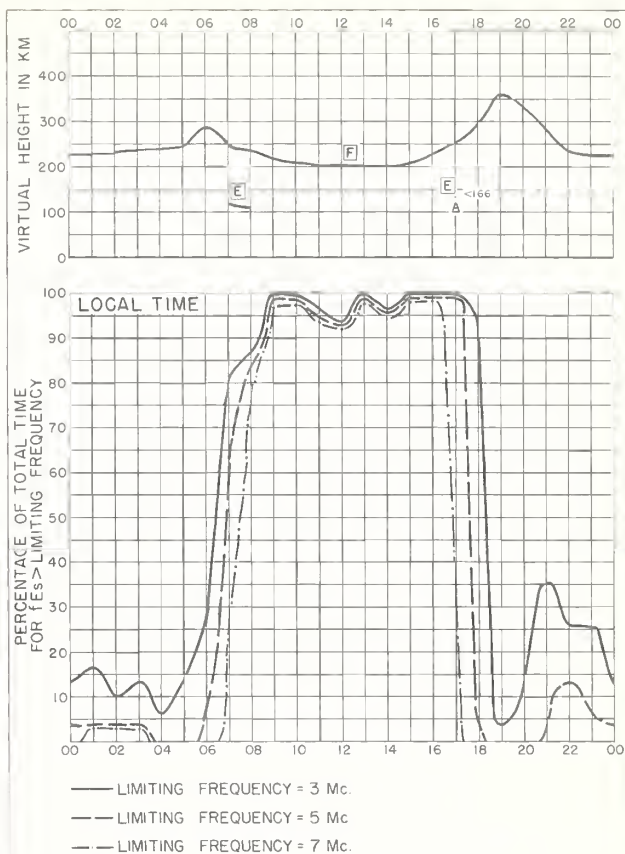


Fig. 50. HUANCAYO, PERU

AUGUST 1960

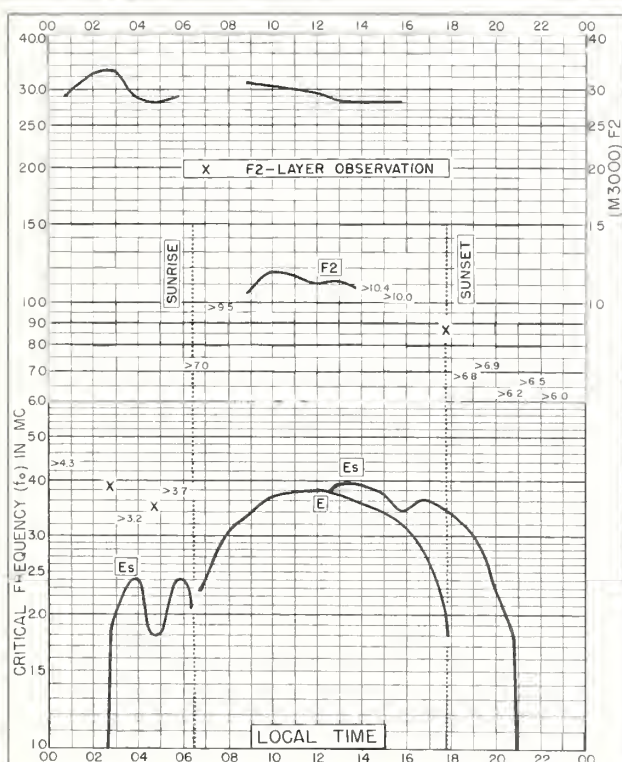


Fig. 51. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E

AUGUST 1960

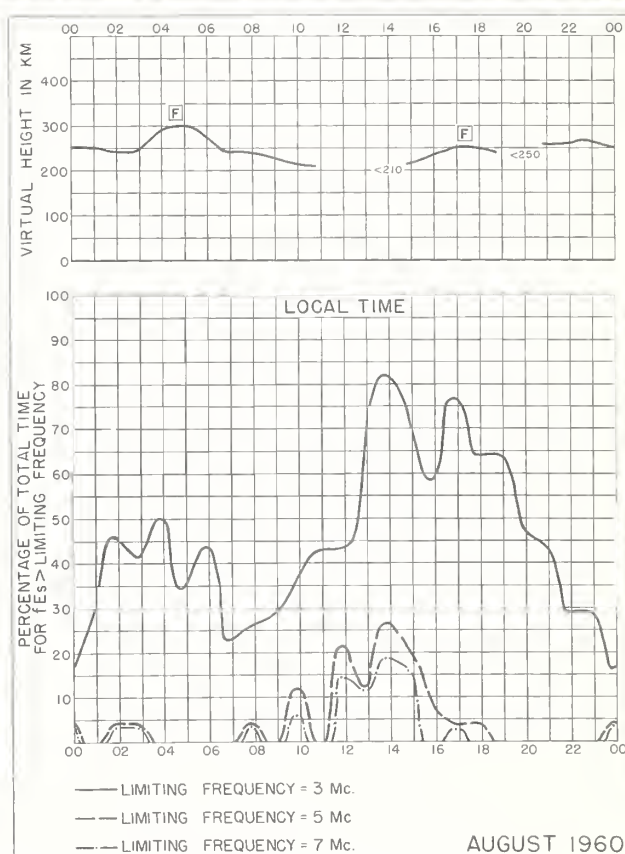


Fig. 52. TOWNSVILLE, AUSTRALIA

AUGUST 1960

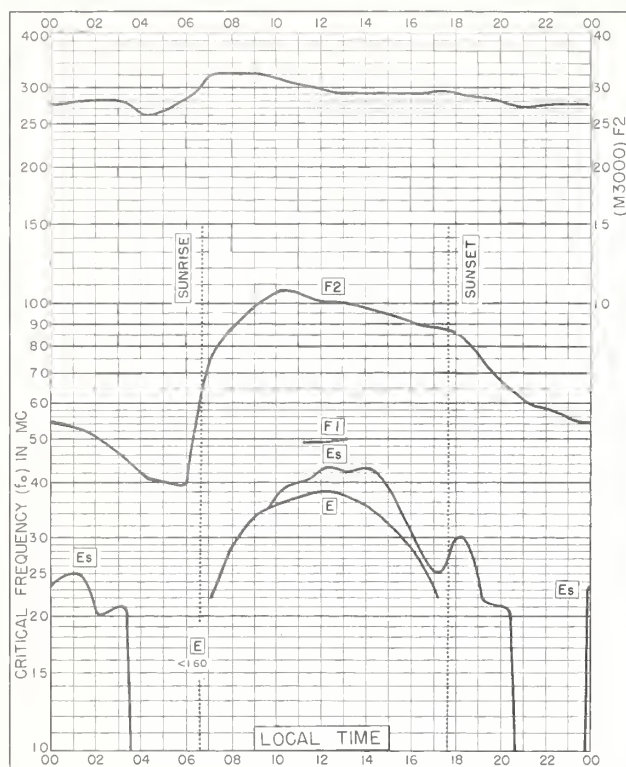


Fig. 53. BRISBANE, AUSTRALIA
27.5°S, 152.9°E

AUGUST 1960

NBS 503

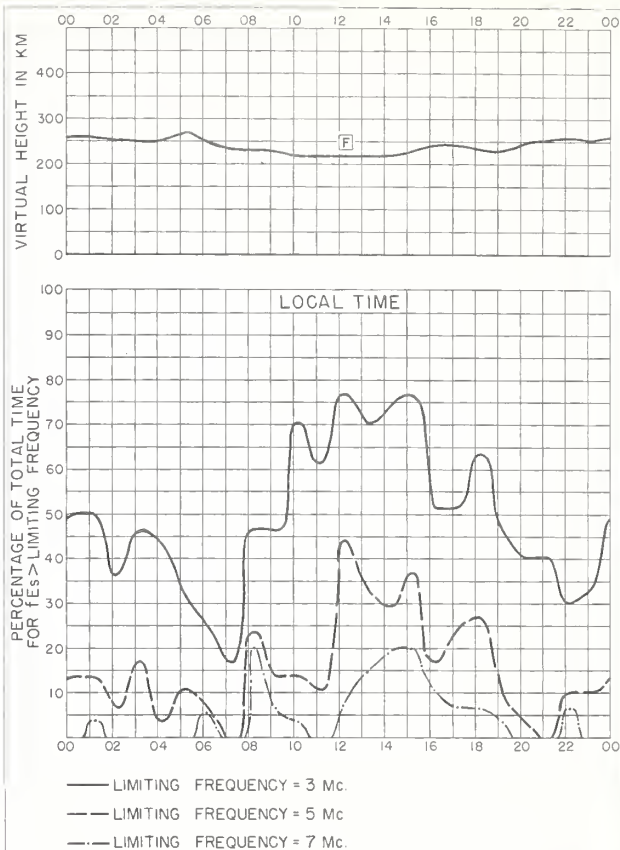


Fig. 54. BRISBANE, AUSTRALIA

AUGUST 1960

NBS 490

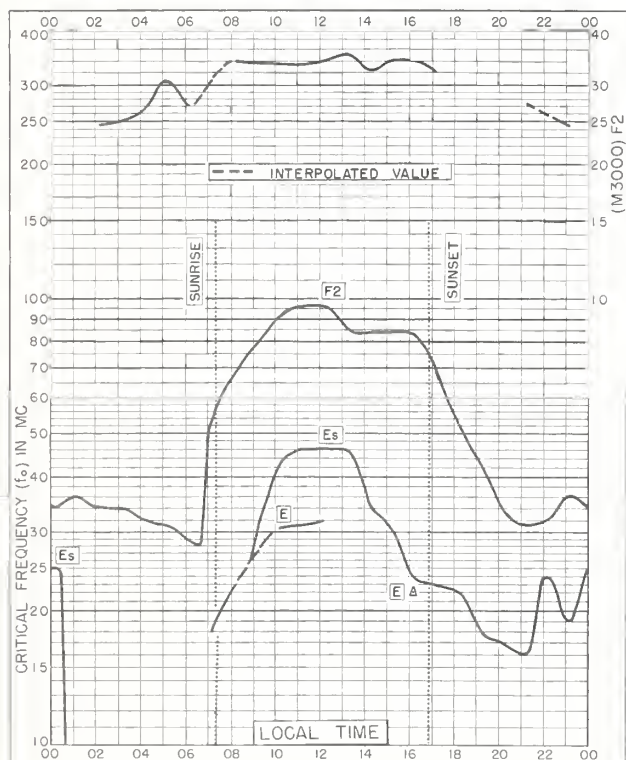


Fig. 55. FALKLAND IS.
51.7°S, 57.8°W

AUGUST 1960

NBS 503

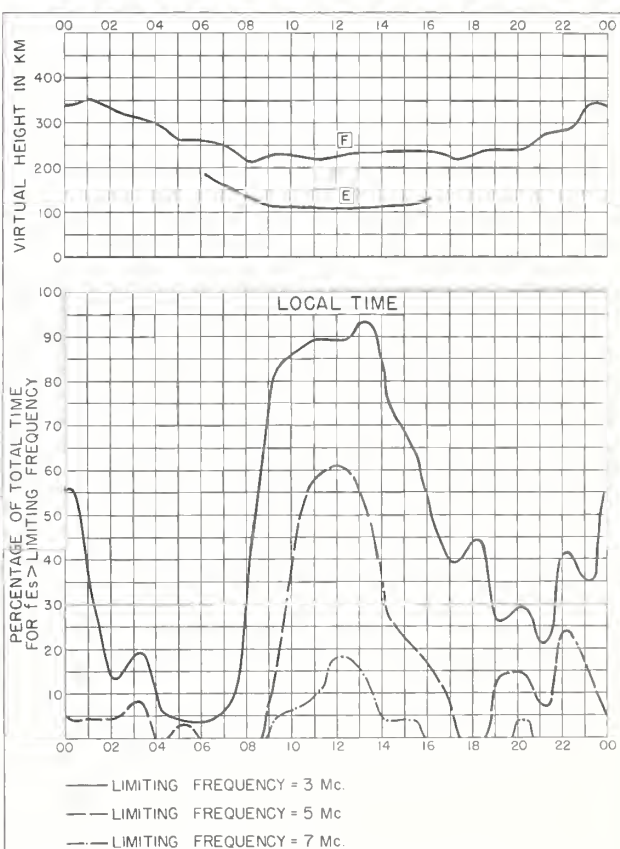


Fig. 56. FALKLAND IS.

AUGUST 1960

NBS 490

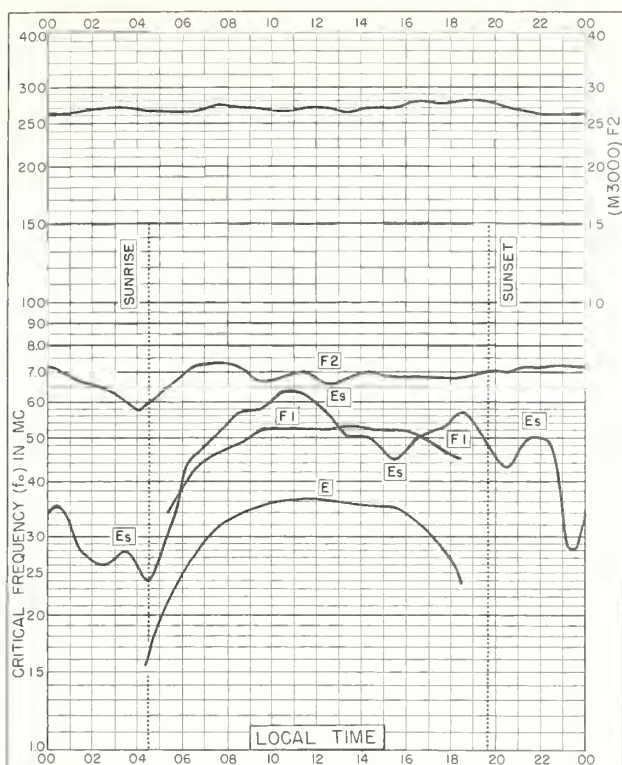


Fig. 57. WAKKANAI, JAPAN
45.4°N, 141.7°E

JULY 1960

NBS 503

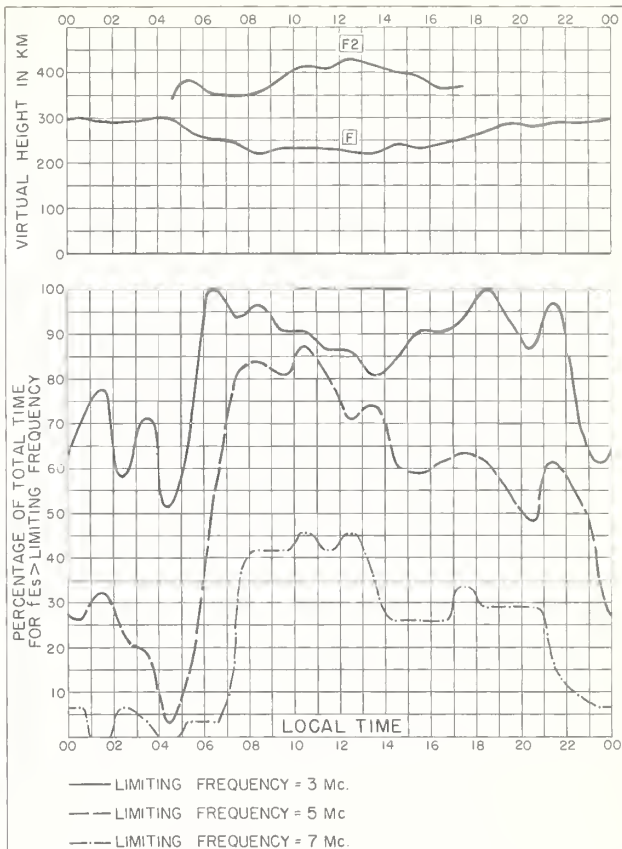


Fig. 58. WAKKANAI, JAPAN

JULY 1960

NBS 490

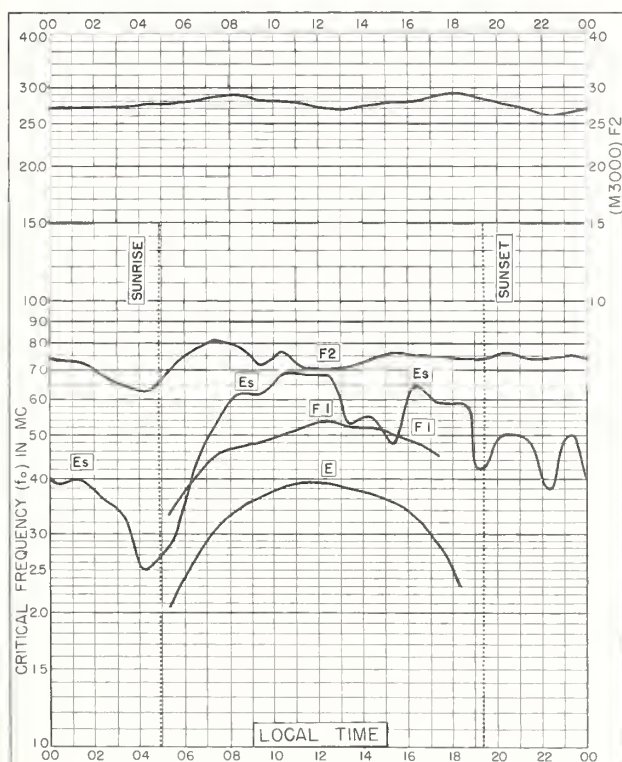


Fig. 59. AKITA, JAPAN
39.7°N, 140.1°E

JULY 1960

NBS 503

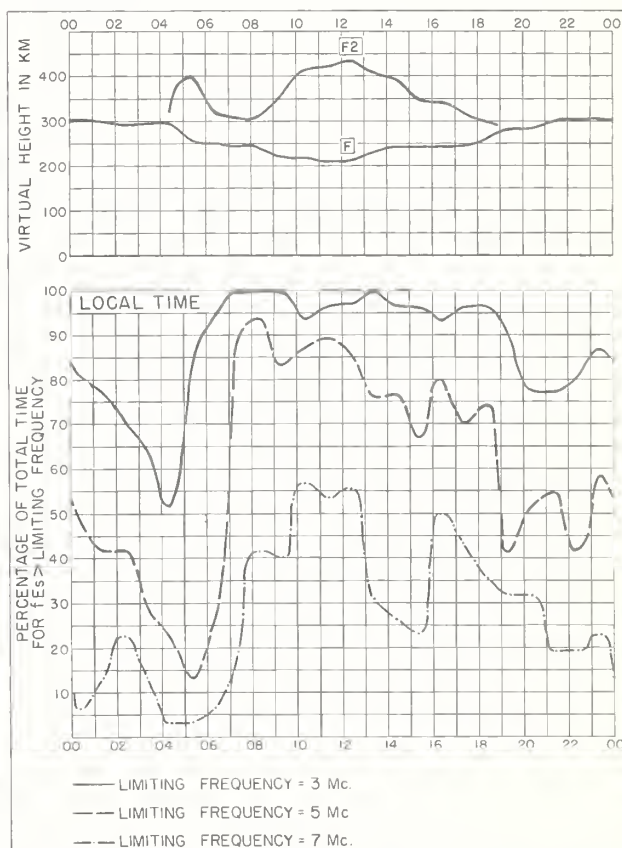


Fig. 60. AKITA, JAPAN

JULY 1960

NBS 490

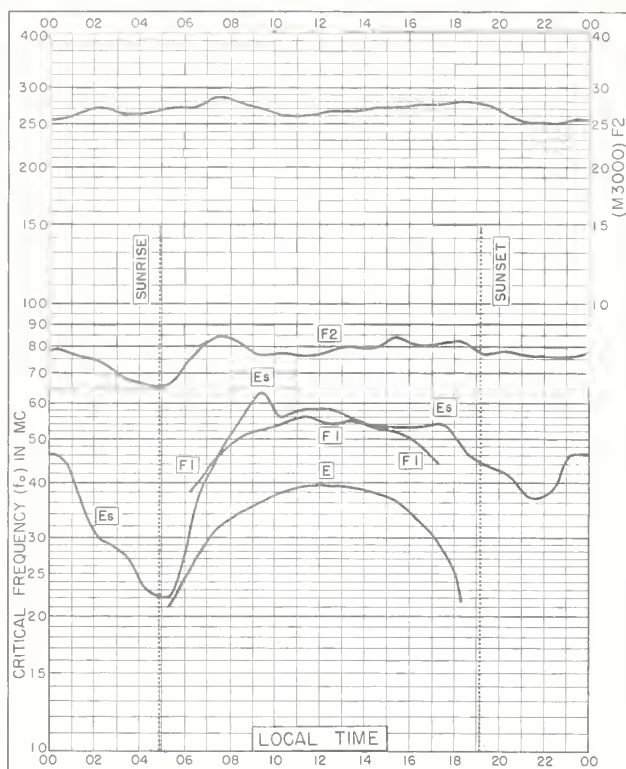


Fig. 61. TOKYO, JAPAN
35.7°N, 139.5°E

JULY 1960

NBS 503

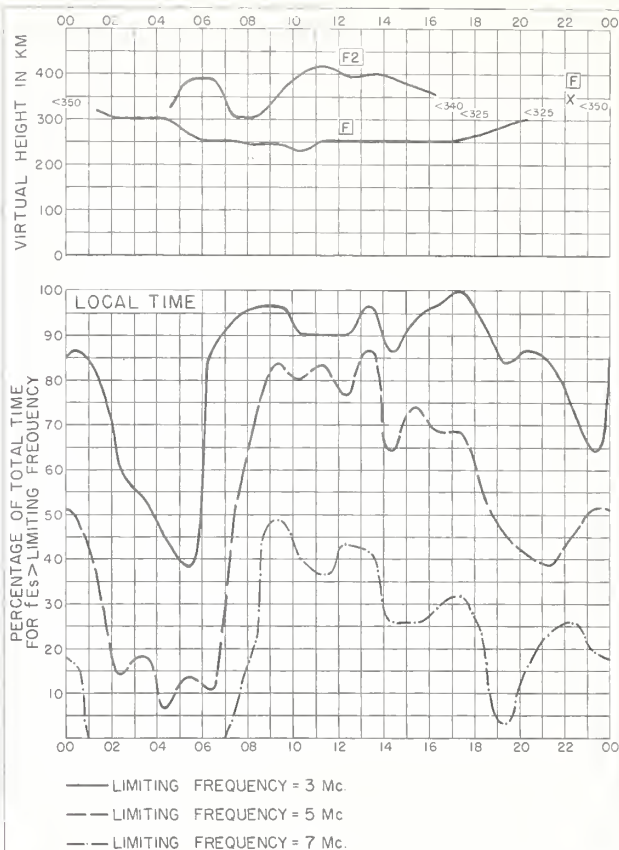


Fig. 62. TOKYO, JAPAN

JULY 1960

NBS 490

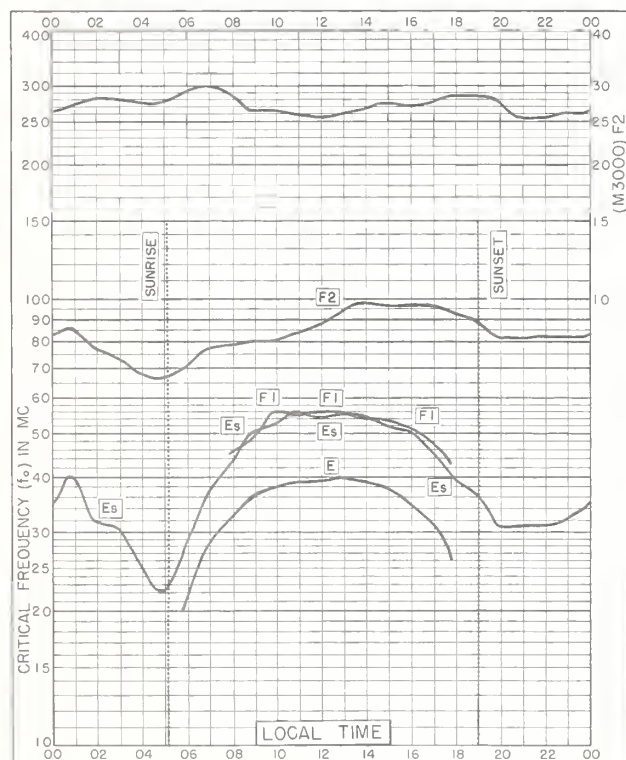


Fig. 63. YAMAGAWA, JAPAN
31.2°N, 130.6°E

JULY 1960

NBS 503

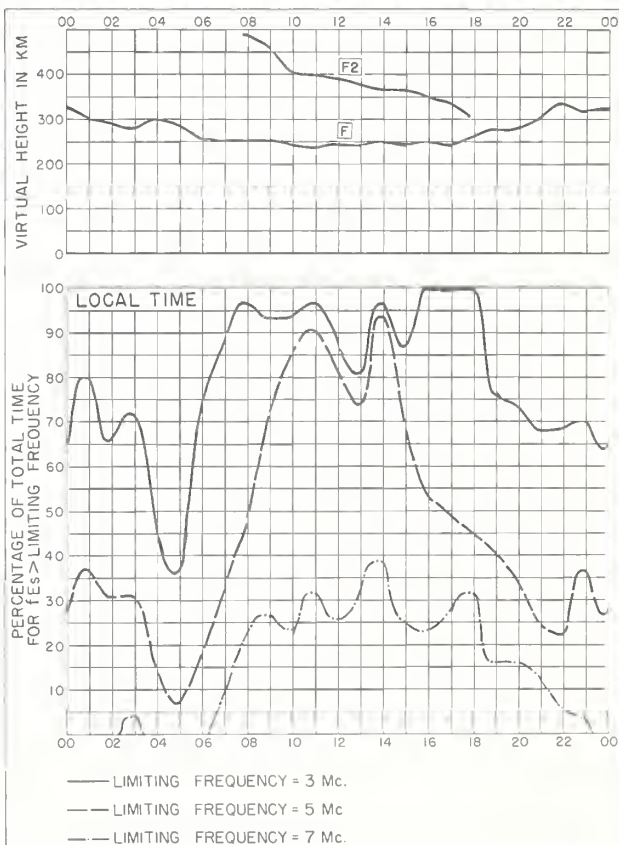


Fig. 64. YAMAGAWA, JAPAN

JULY 1960

NBS 490

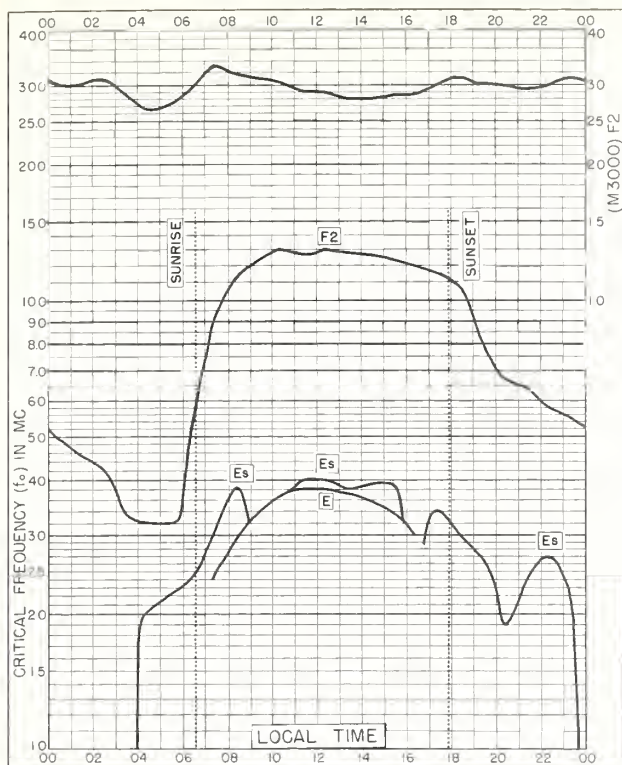


Fig. 65. EL CERILLO, MEXICO
19.3°N, 99.5°W FEBRUARY 1960

NBS 503

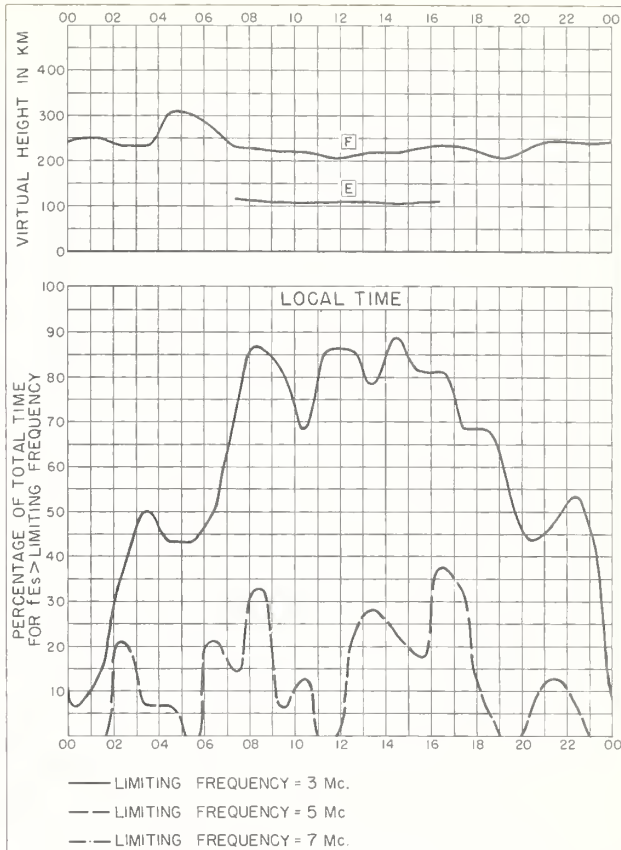


Fig. 66. EL CERILLO, MEXICO FEBRUARY 1960

NBS 490

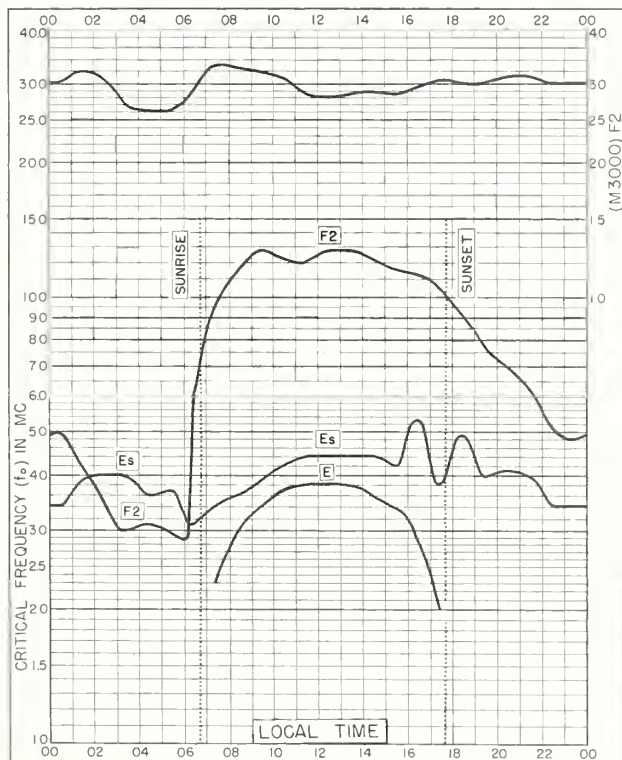


Fig. 67. EL CERILLO, MEXICO
19.3°N, 99.5°W JANUARY 1960

NBS 503

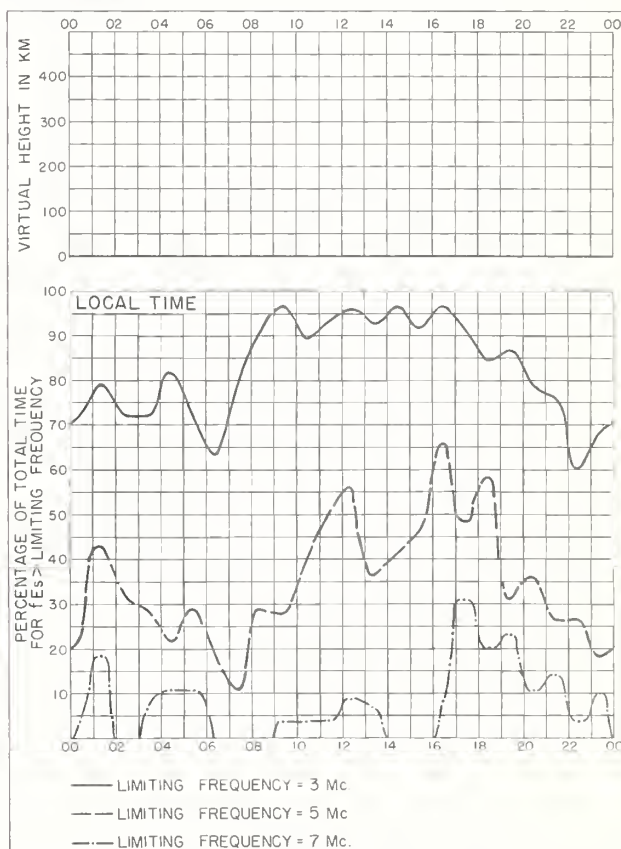
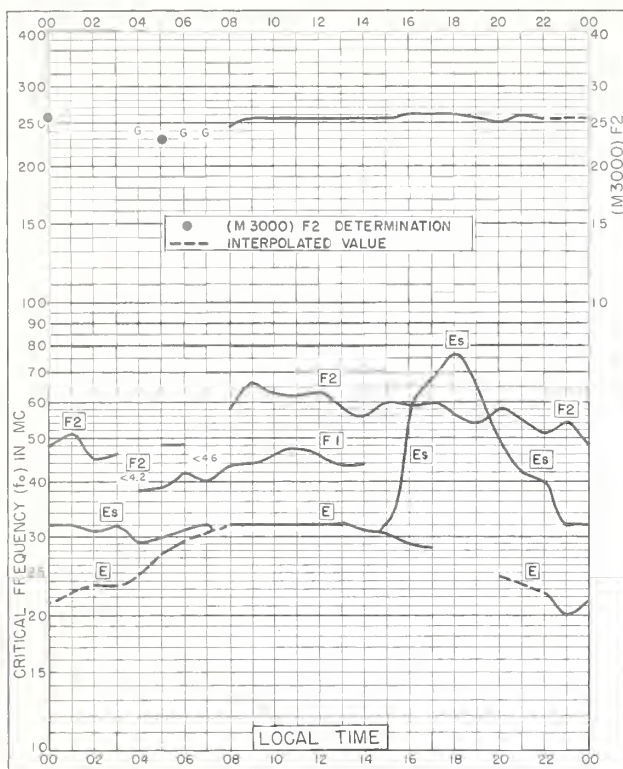


Fig. 68. EL CERILLO, MEXICO JANUARY 1960

NBS 490



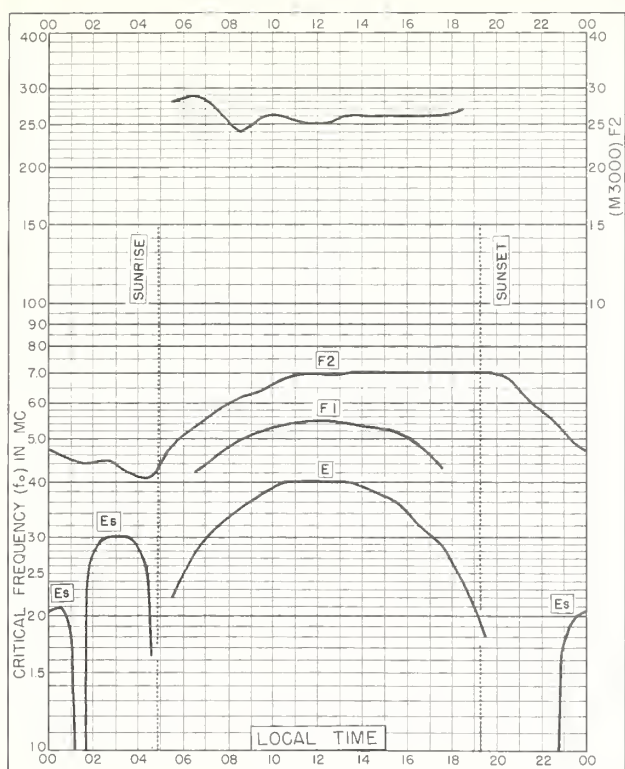


Fig. 73. WINNIPEG, CANADA
49.9°N, 97.4°W

AUGUST 1959

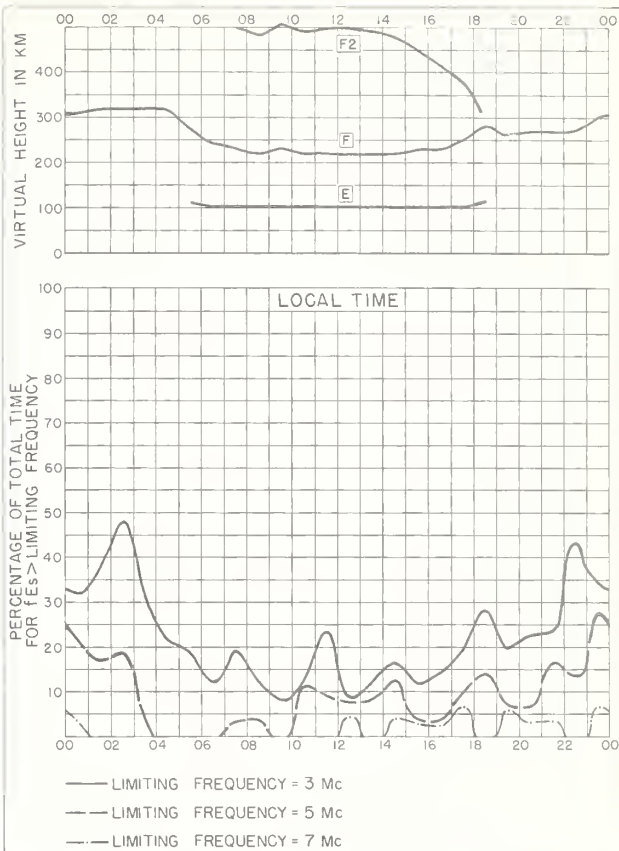


Fig. 74. WINNIPEG, CANADA

AUGUST 1959

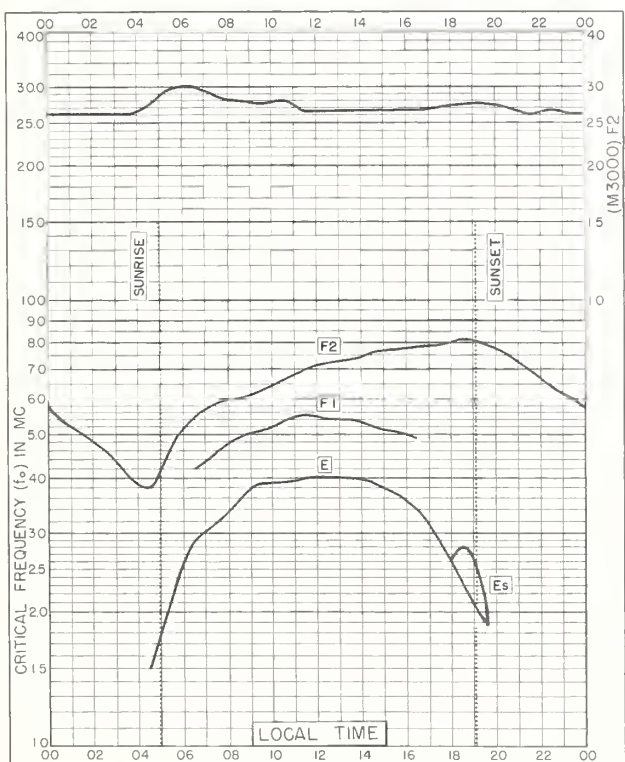


Fig. 75. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W

AUGUST 1959

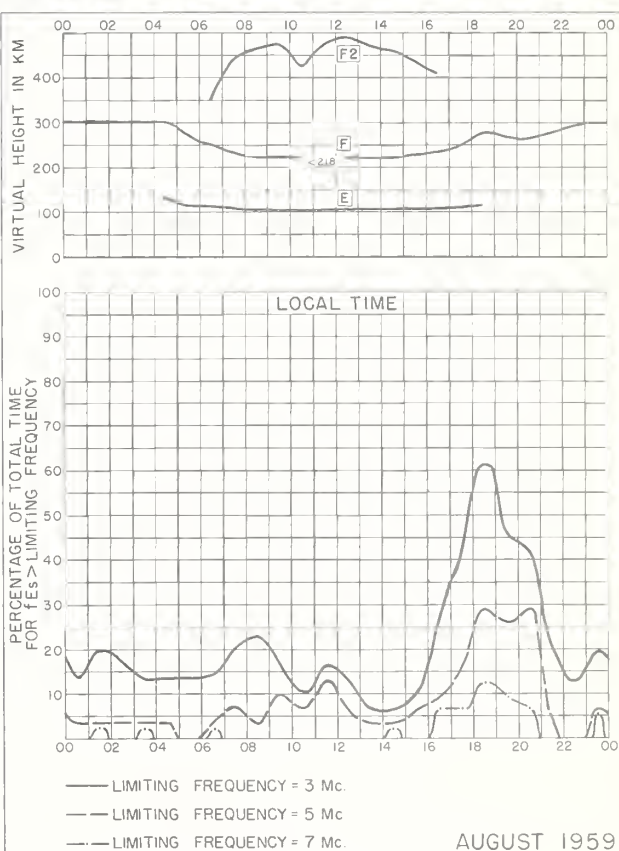


Fig. 76. ST. JOHN'S, NEWFOUNDLAND

AUGUST 1959



Fig. 77. IBADAN, NIGERIA
7.4°N, 3.9°E

AUGUST 1959

NBS 503

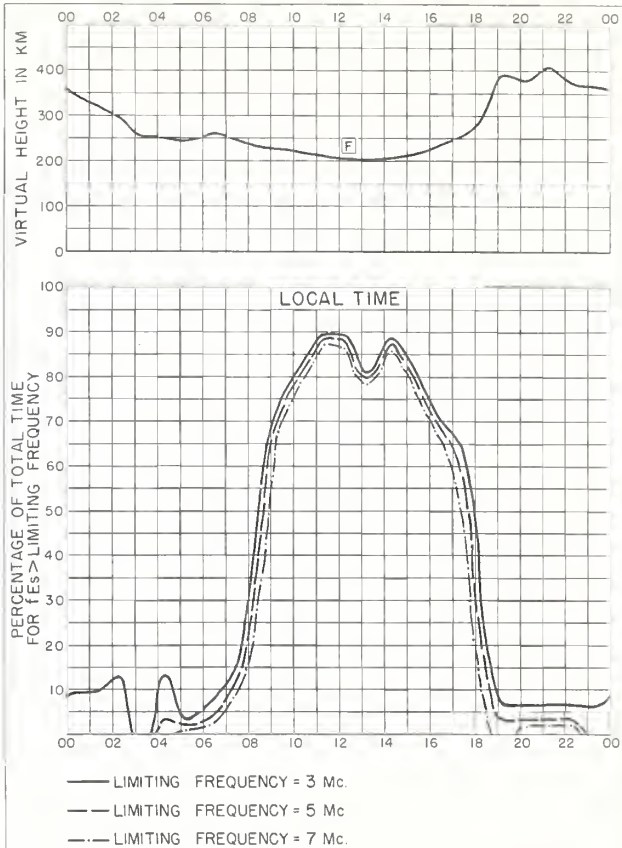


Fig. 78. IBADAN, NIGERIA

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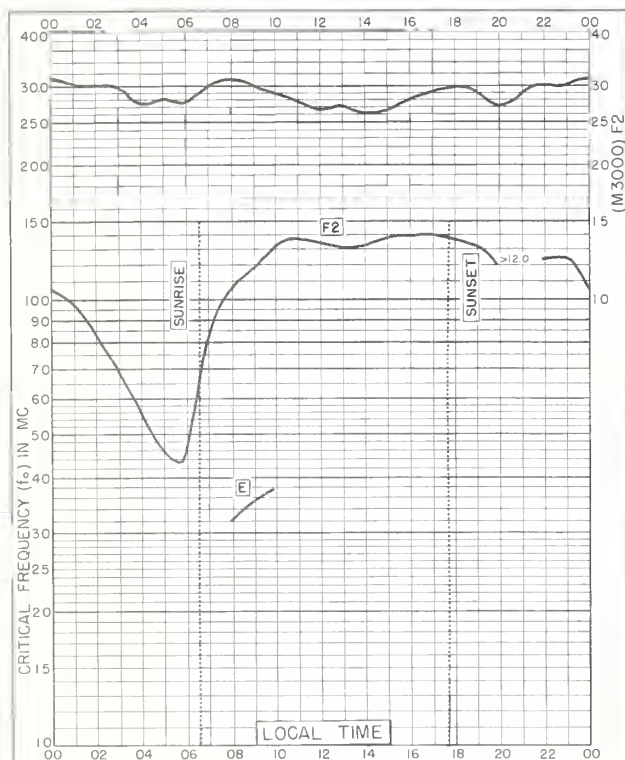


Fig. 79. SAO PAULO, BRAZIL
23.5°S, 46.5°W

AUGUST 1959

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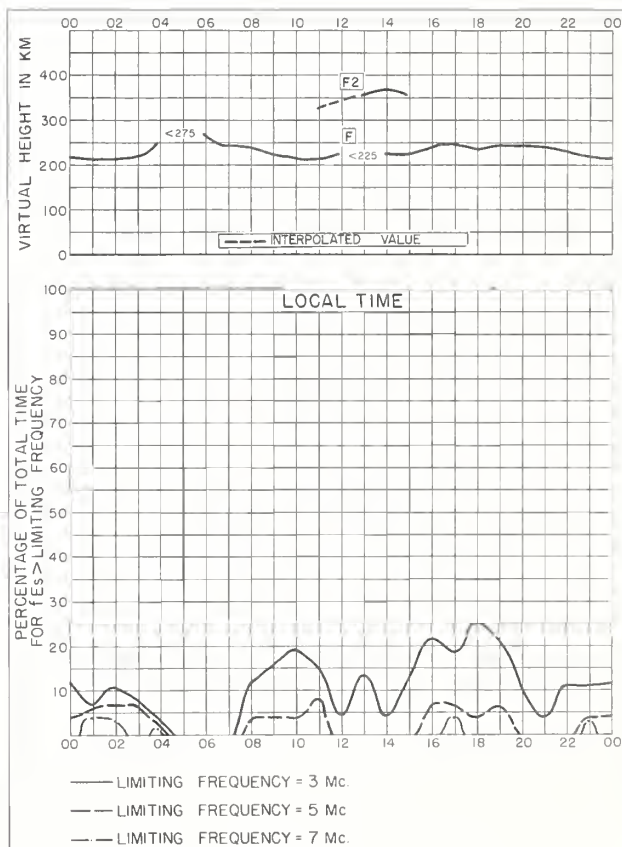


Fig. 80. SAO PAULO, BRAZIL

AUGUST 1959

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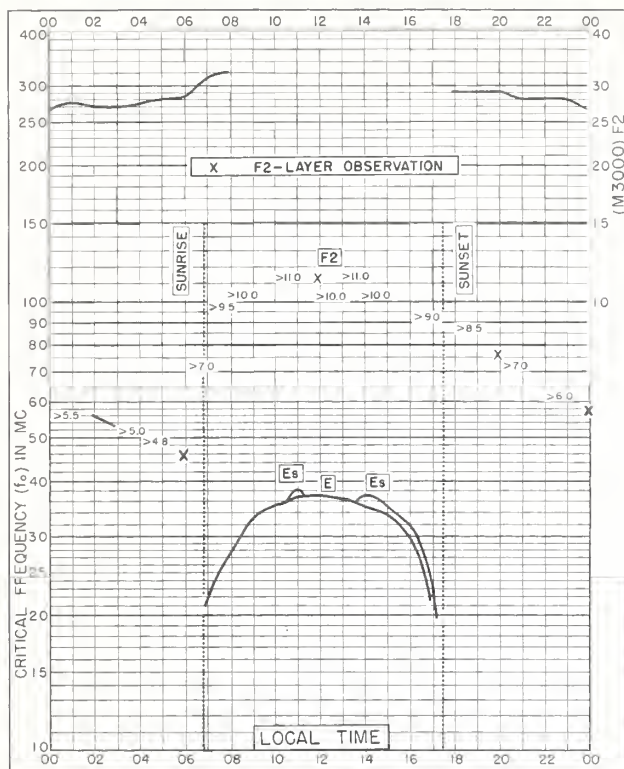


Fig. 85. CANBERRA, AUSTRALIA
35.3°S, 149.0°E

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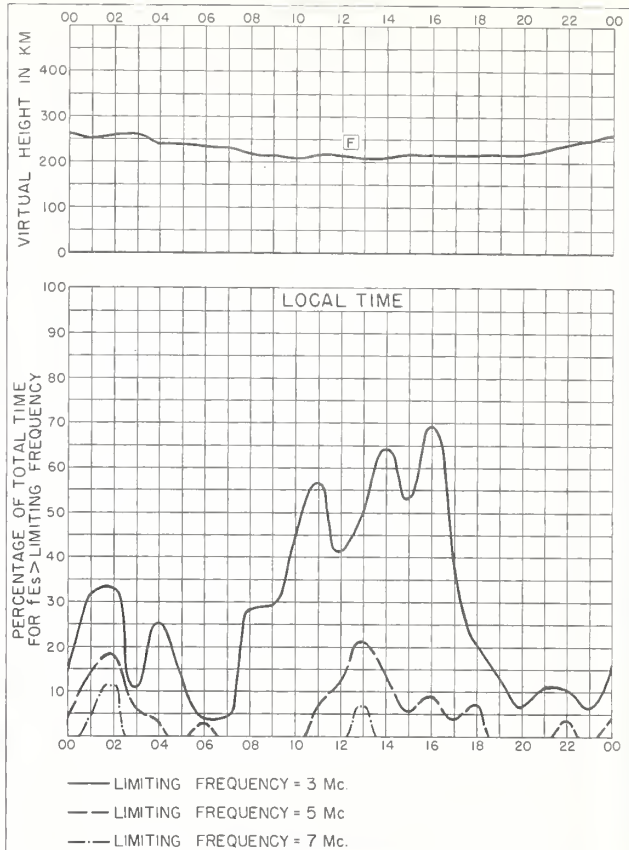


Fig. 86. CANBERRA, AUSTRALIA AUGUST 1959

NBS 490

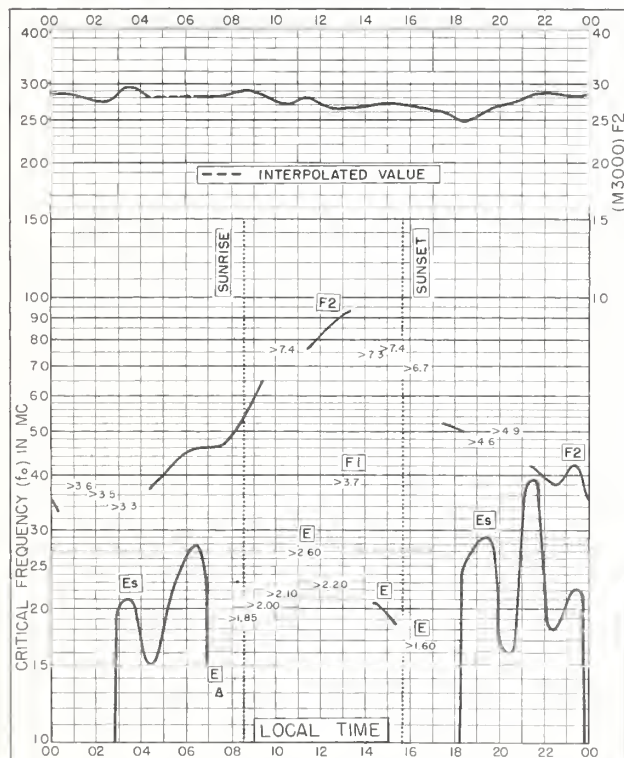


Fig. 87. WILKES STATION
66.9°S, 110.5°E

AUGUST 1959

NBS 503

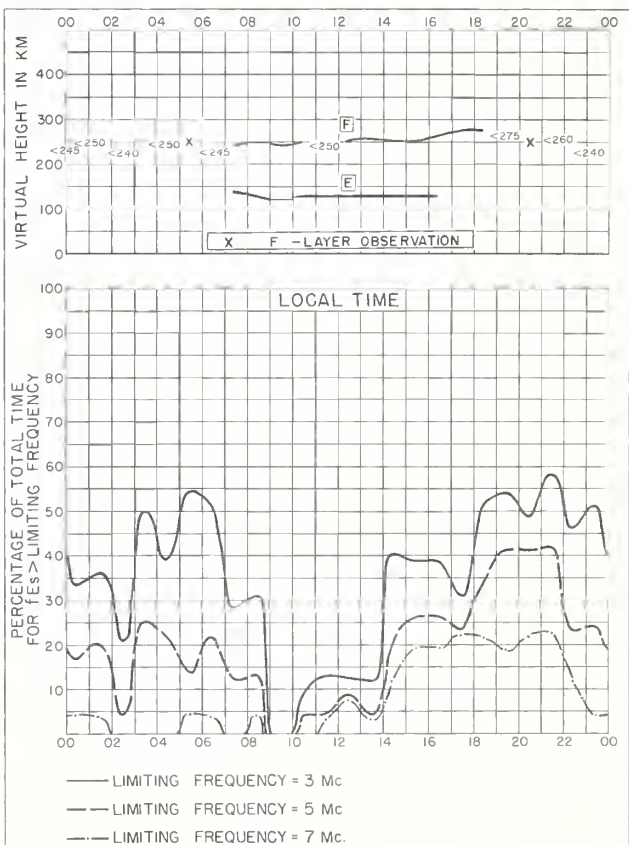


Fig. 88. WILKES STATION

AUGUST 1959

NBS 490

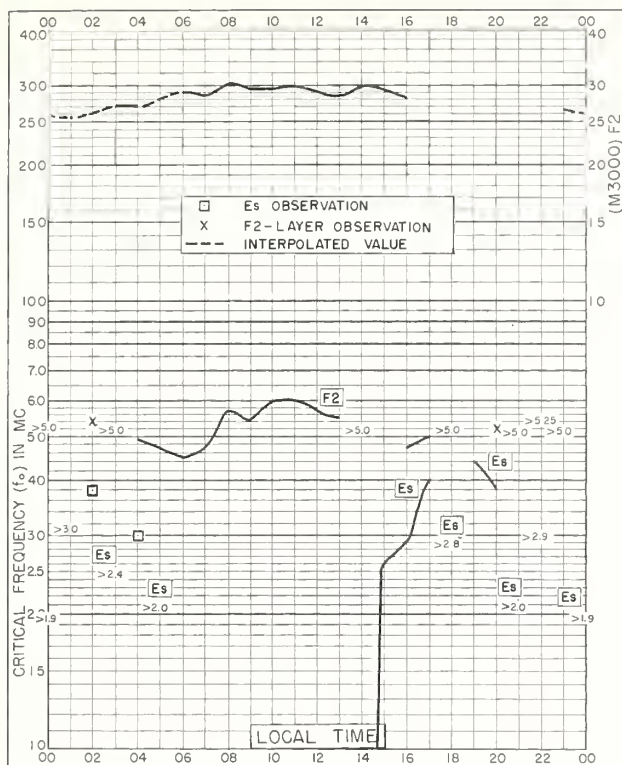


Fig. 89. BYRD STATION
80.0°S, 120.0°W AUGUST 1959

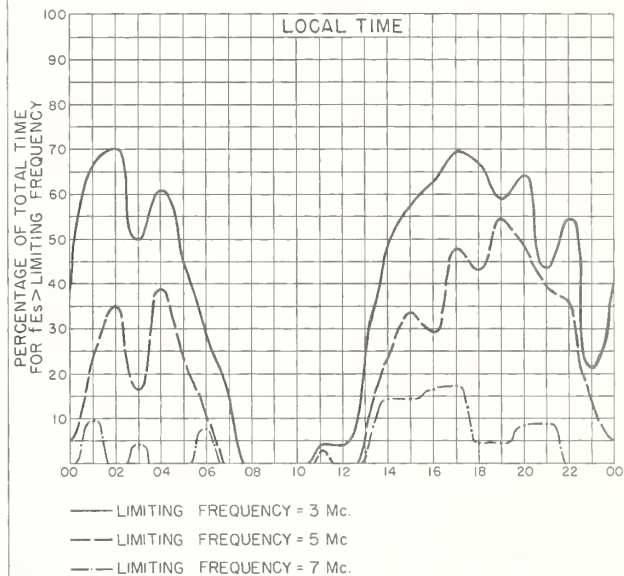
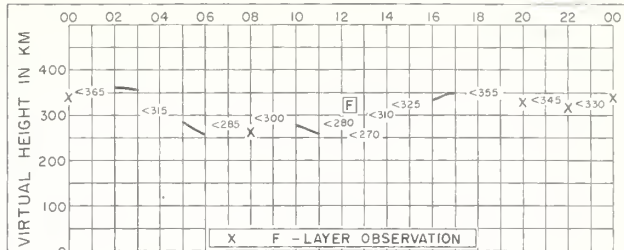


Fig. 90. BYRD STATION AUGUST 1959

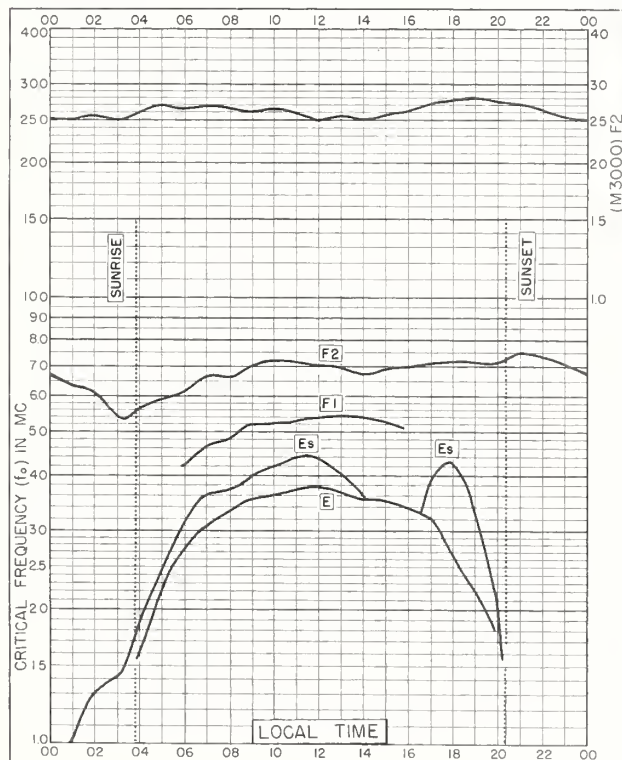


Fig. 91. JULIUSRUH/RÜGEN, GERMANY
54.6°N, 13.4°E JULY 1959

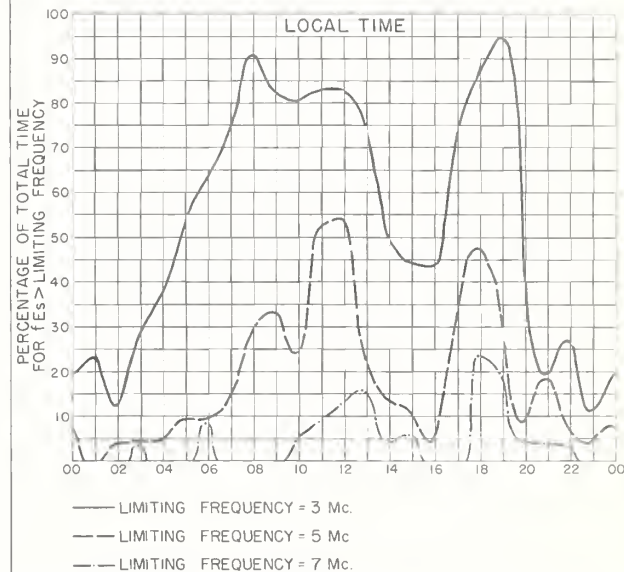
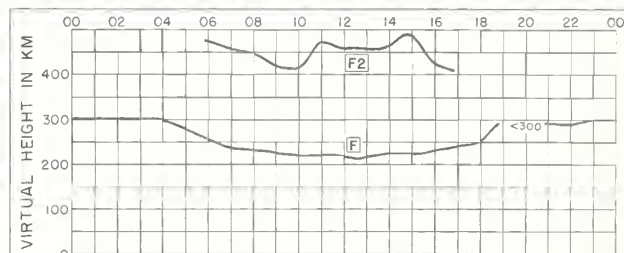


Fig. 92. JULIUSRUH/RÜGEN, GERMANY JULY 1959

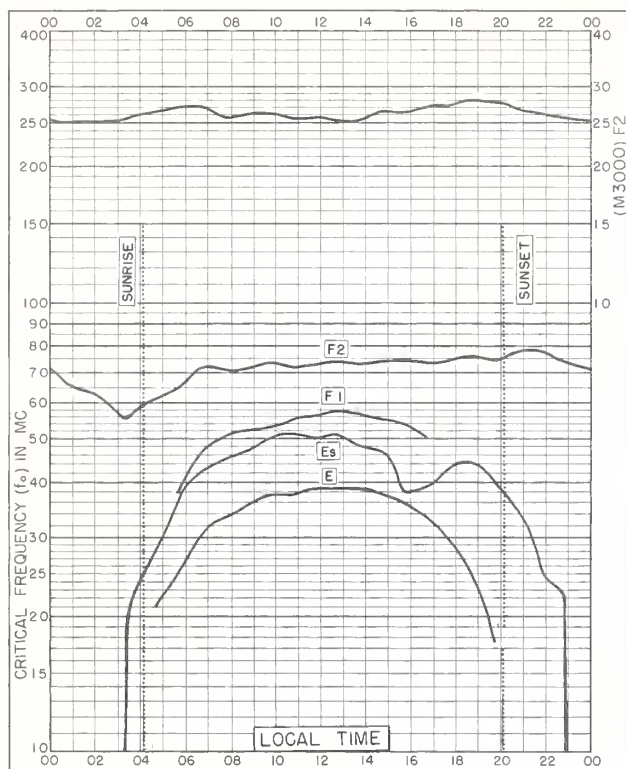


Fig. 93. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E

JULY 1959

NBS 503

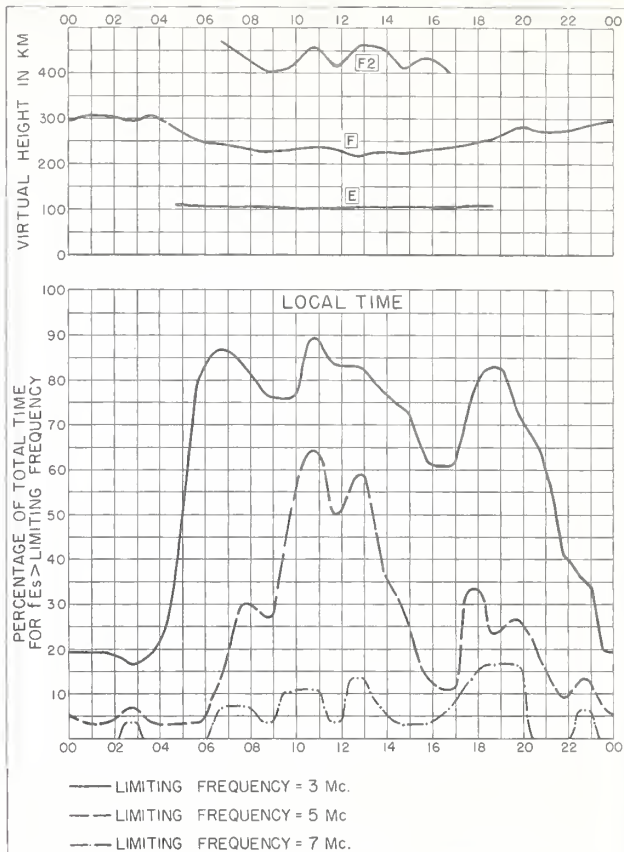


Fig. 94. LINDAU/HARZ, GERMANY

JULY 1959

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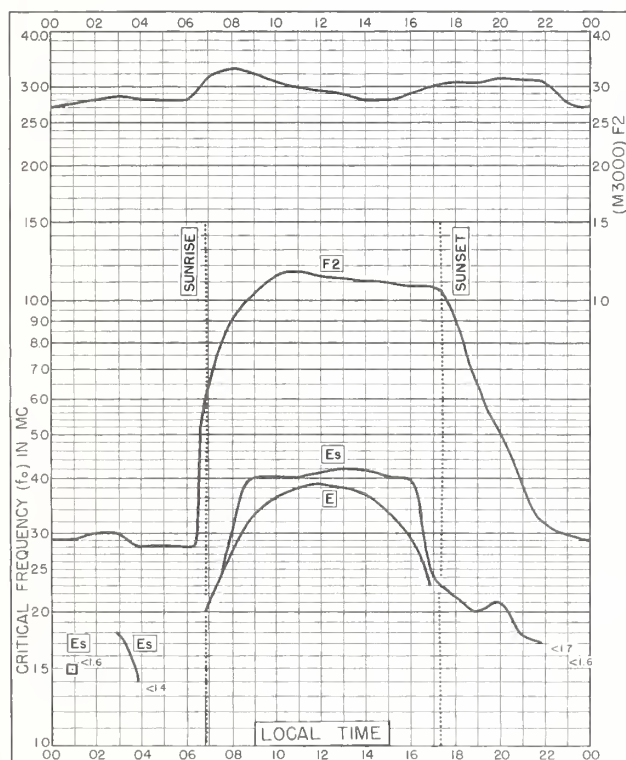


Fig. 95. JOHANNESBURG, UNION OF S. AFRICA
26.1°S, 28.1°E

JULY 1959

NBS 503

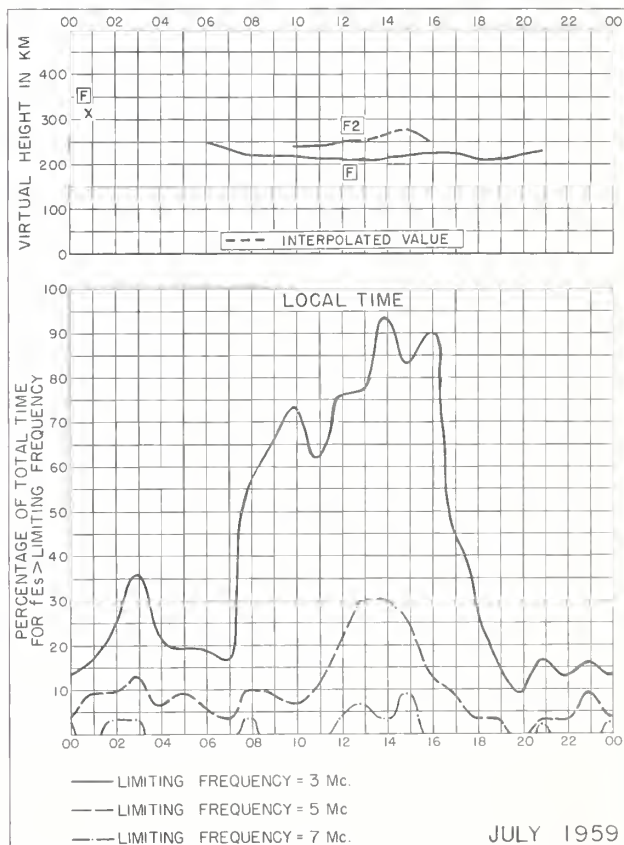


Fig. 96. JOHANNESBURG, UNION OF S. AFRICA

JULY 1959

NBS 490

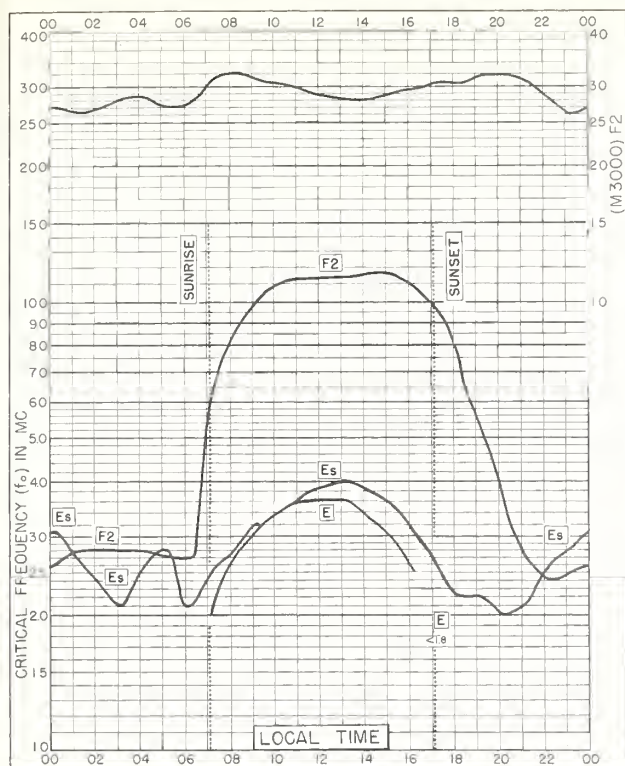


Fig. 97. CAPETOWN, UNION OF S. AFRICA
34.1°S, 18.3°E
JULY 1959

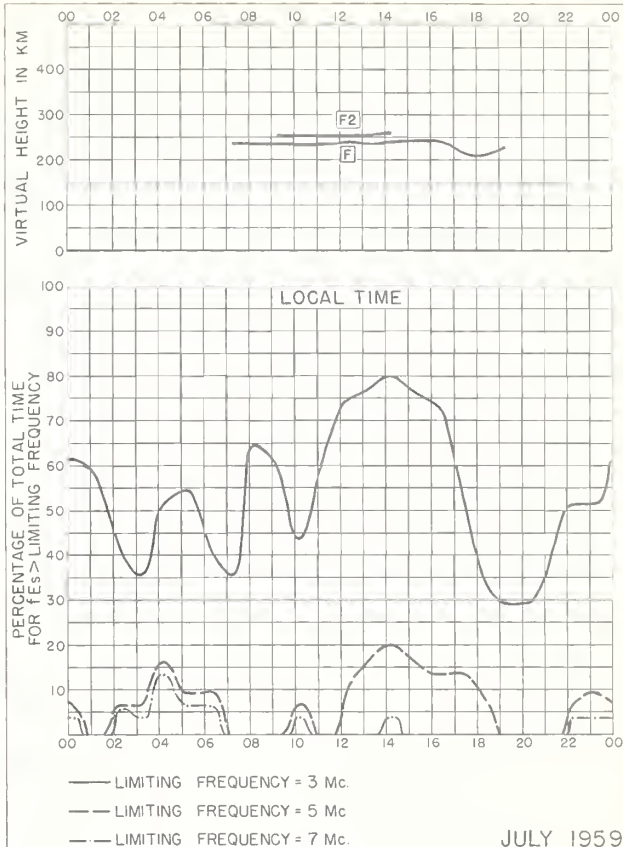


Fig. 98. CAPETOWN, UNION OF S. AFRICA
JULY 1959

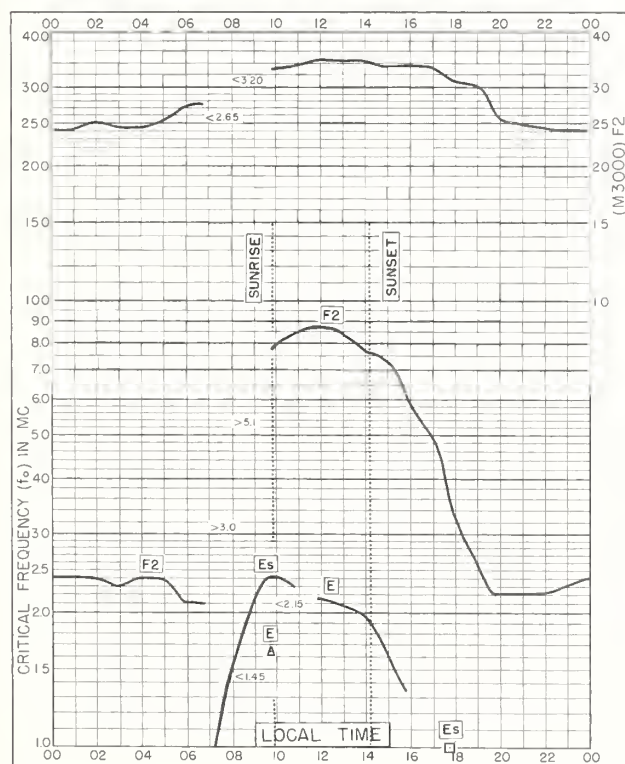


Fig. 99. PORT LOCKROY
64.8°S, 63.5°W
JULY 1959

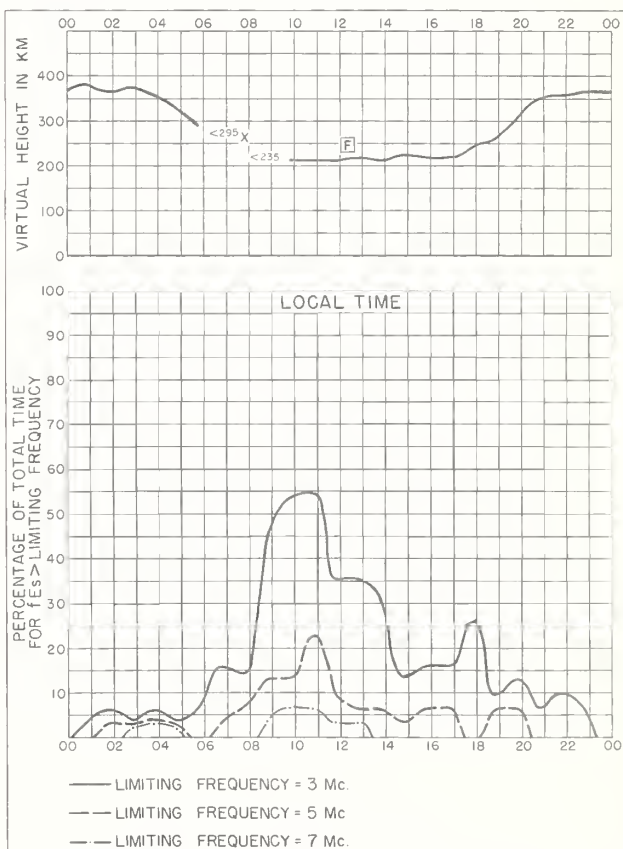


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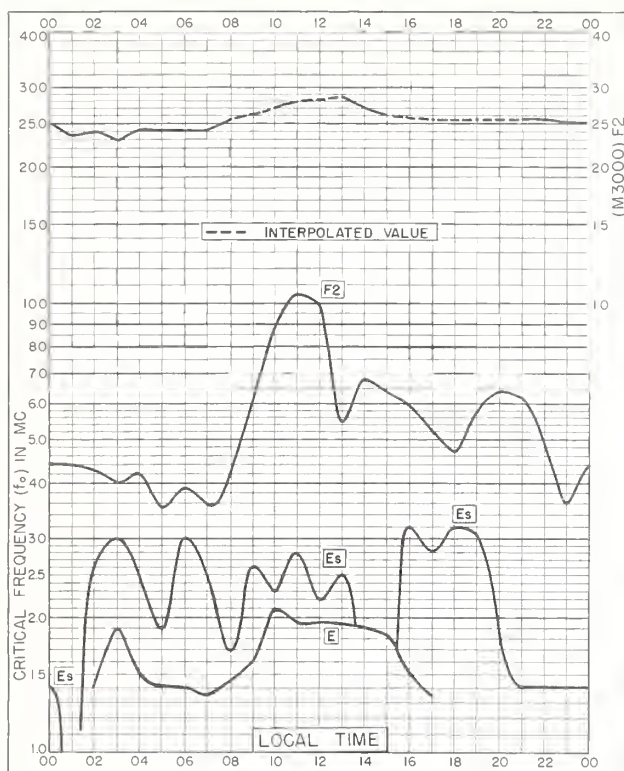


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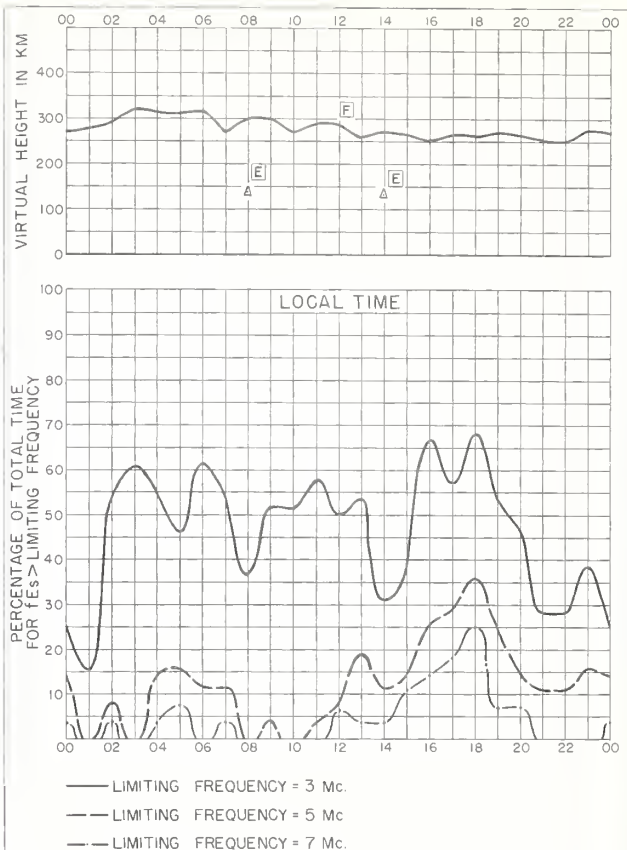


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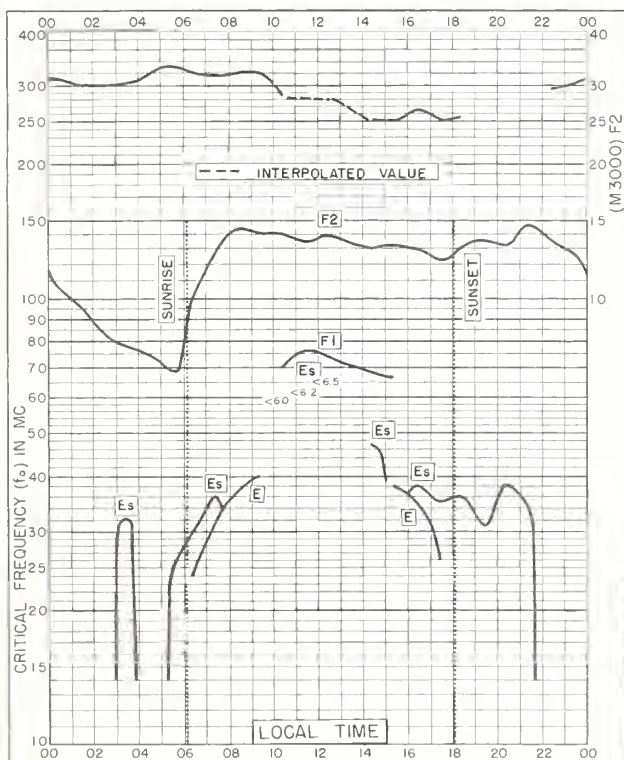


Fig. 103. HOLLANDIA, NETHERLANDS NEW GUINEA
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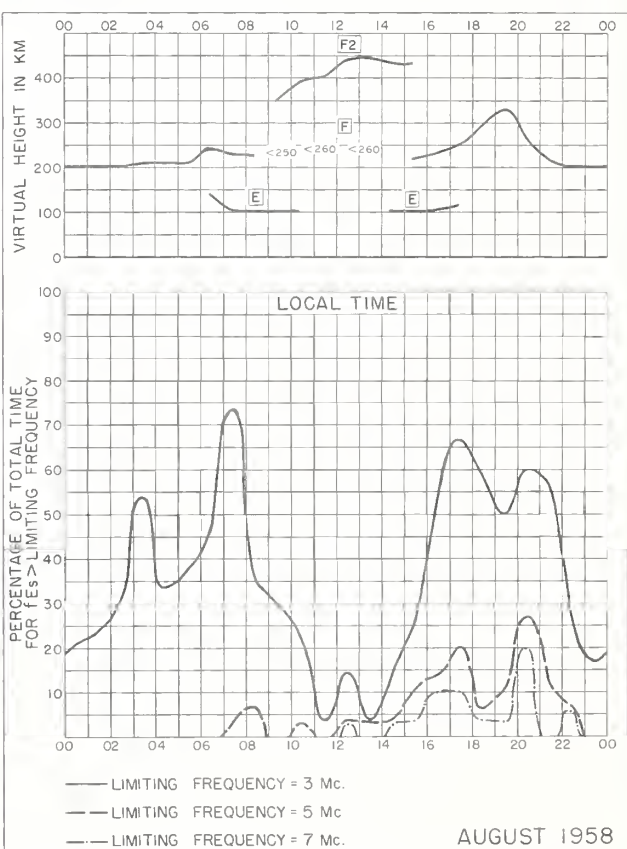


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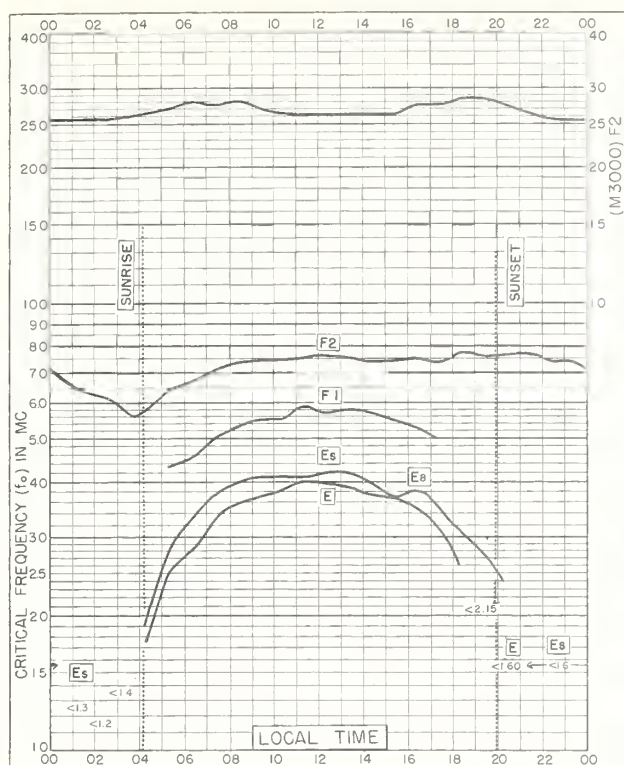


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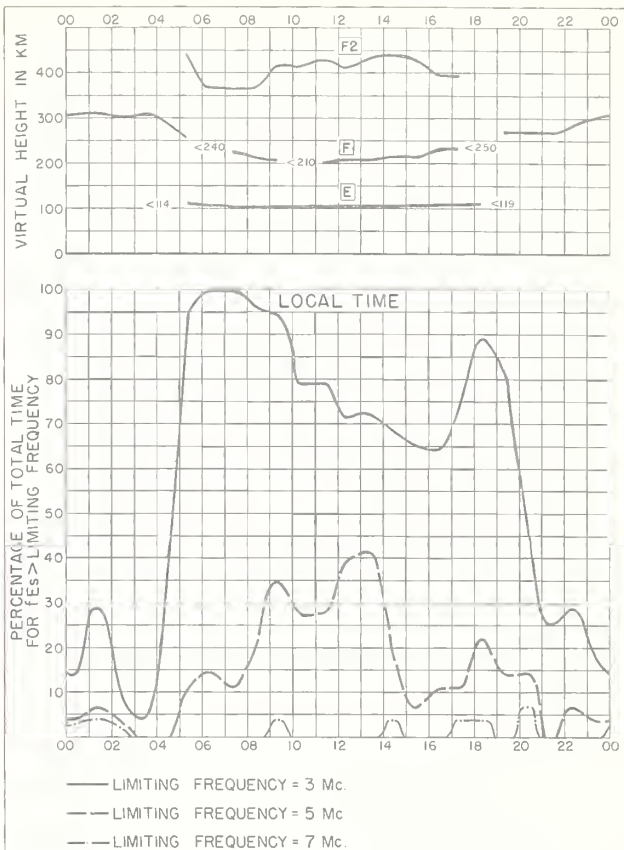


Fig. 106. DOURBES, BELGIUM

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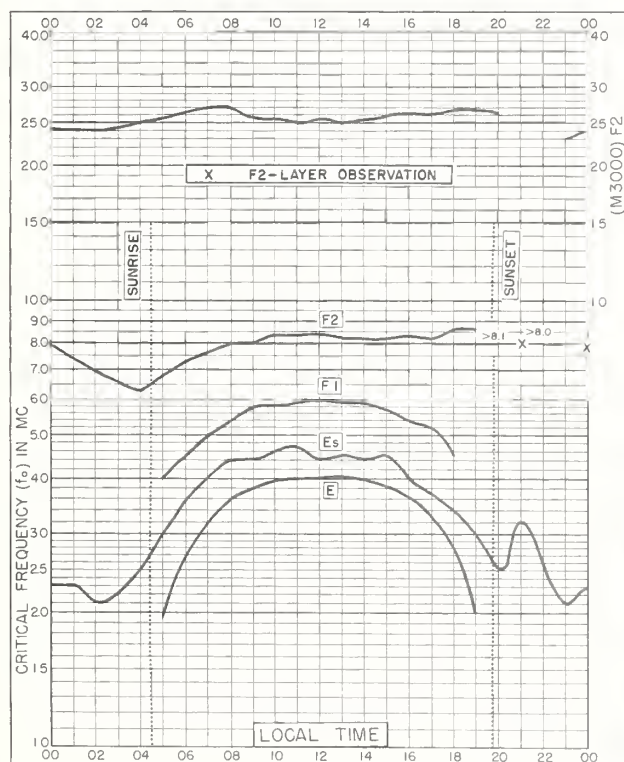


Fig. 107. POITIERS, FRANCE
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JULY 1958

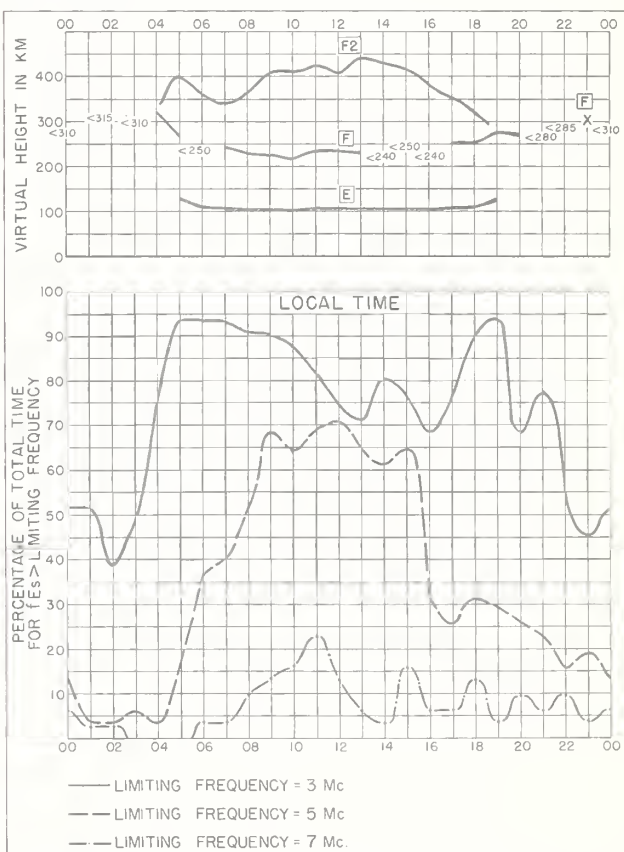


Fig. 108. POITIERS, FRANCE

JULY 1958

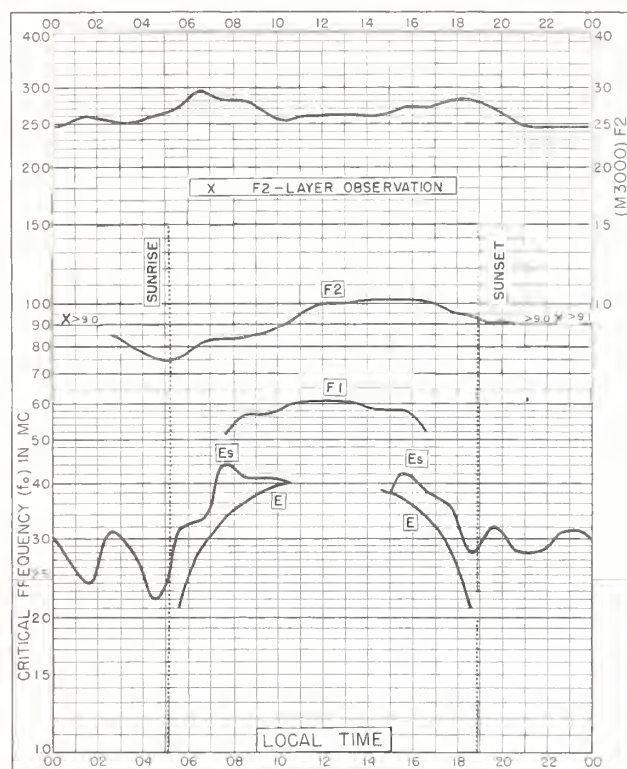


Fig. 109. RABAT, MOROCCO
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JULY 1958

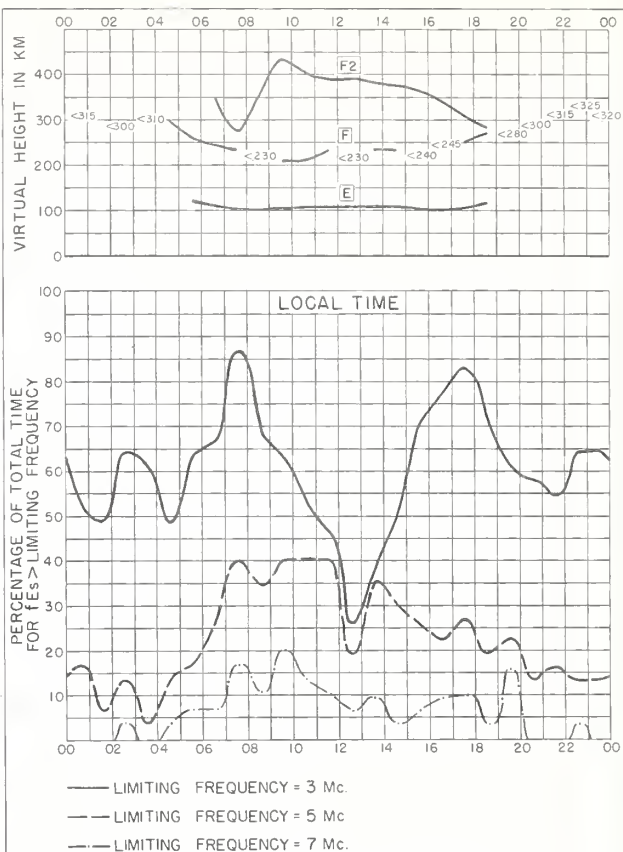


Fig. 110. RABAT, MOROCCO

JULY 1958

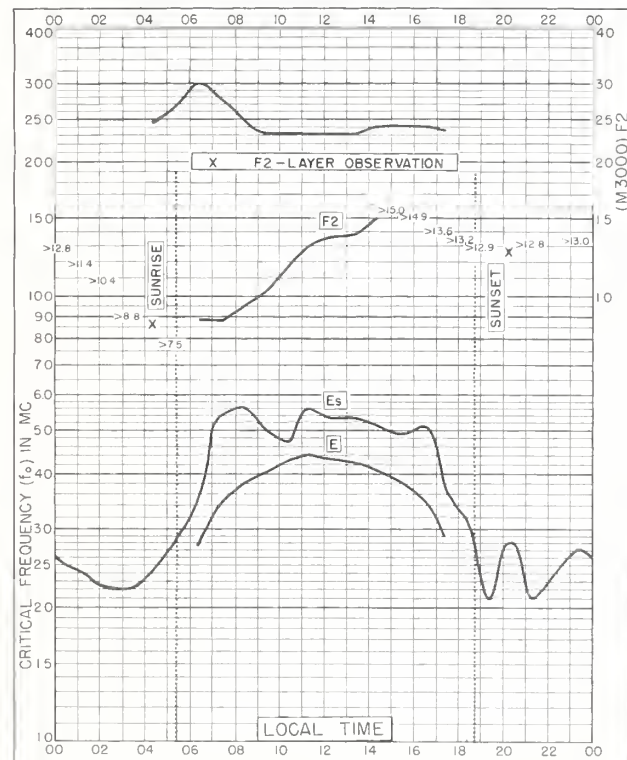


Fig. 111. TAMANRASSET, FRENCH W. AFRICA
22.8°N, 5.5°E

JULY 1958

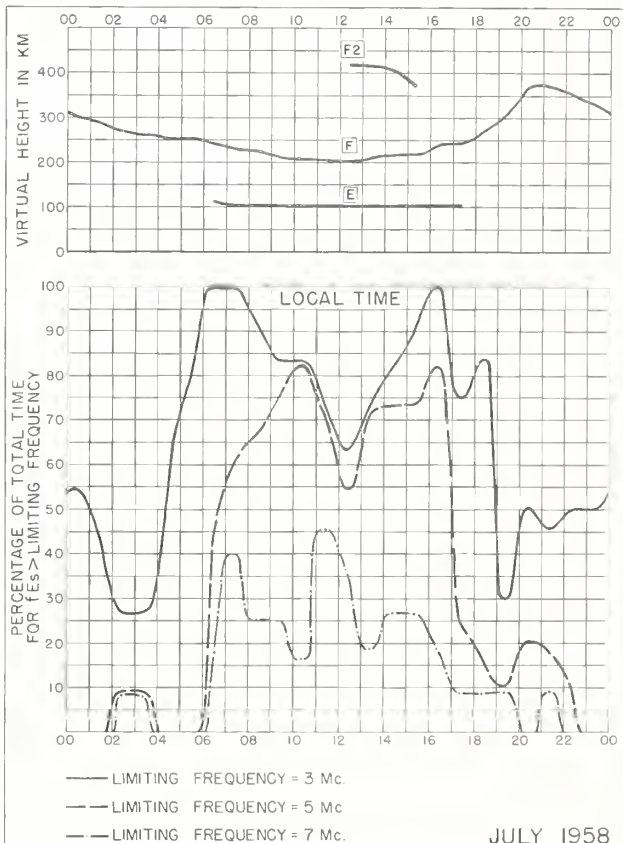


Fig. 112. TAMANRASSET, FRENCH W. AFRICA

JULY 1958

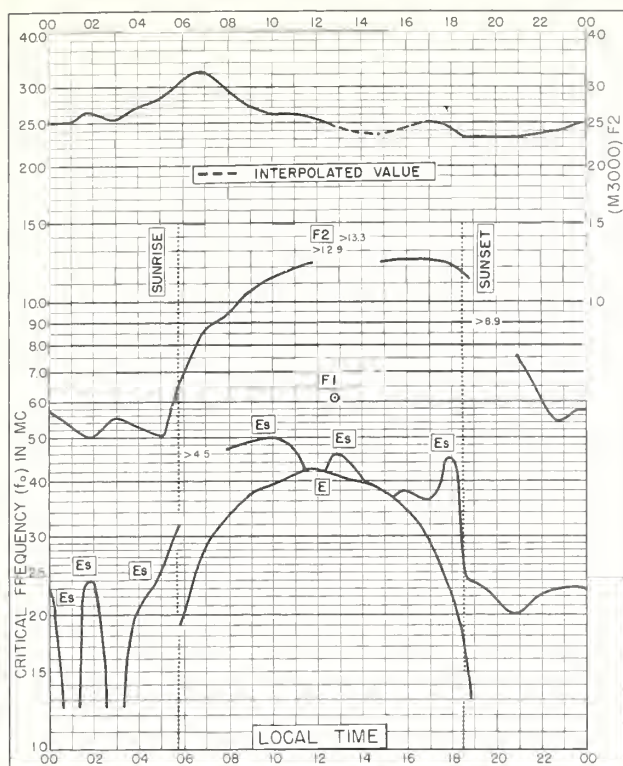


Fig. 113. DAKAR, FRENCH W. AFRICA
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JULY 1958

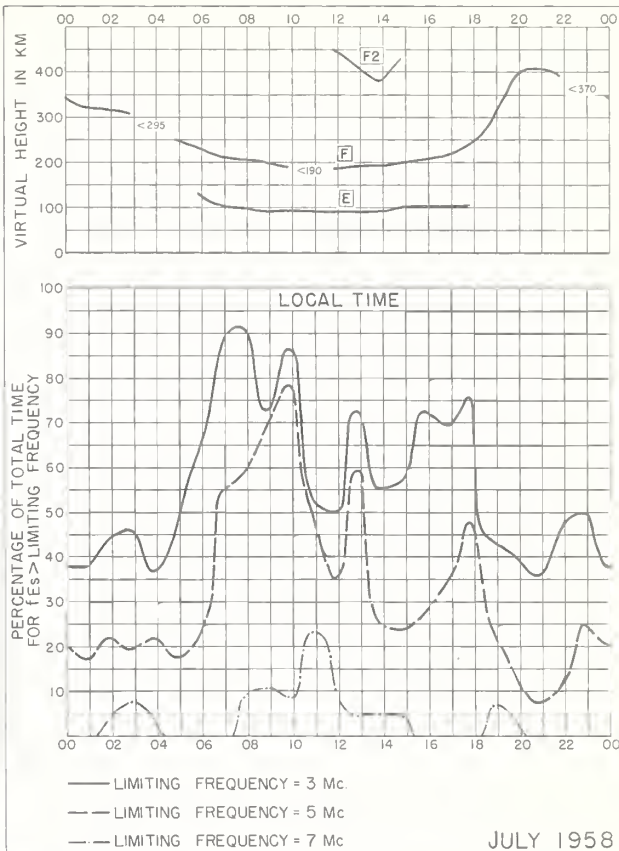


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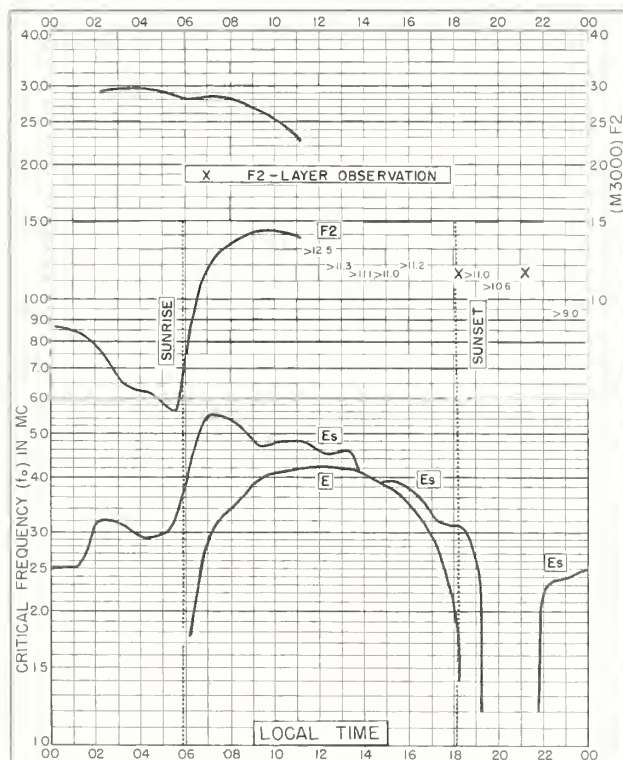


Fig. 115. BANGUI, FRENCH EQUATORIAL AFRICA
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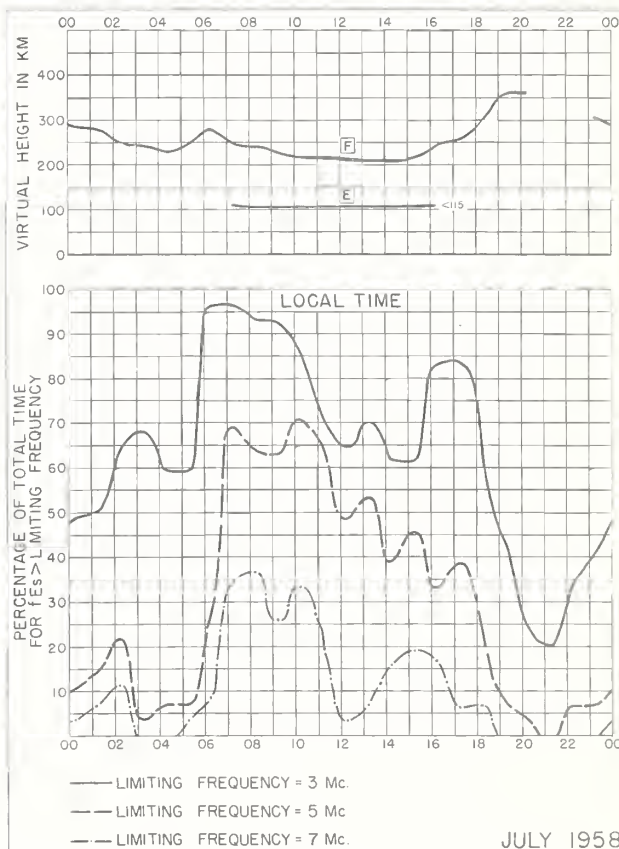


Fig. 116. BANGUI, FRENCH EQUATORIAL AFRICA

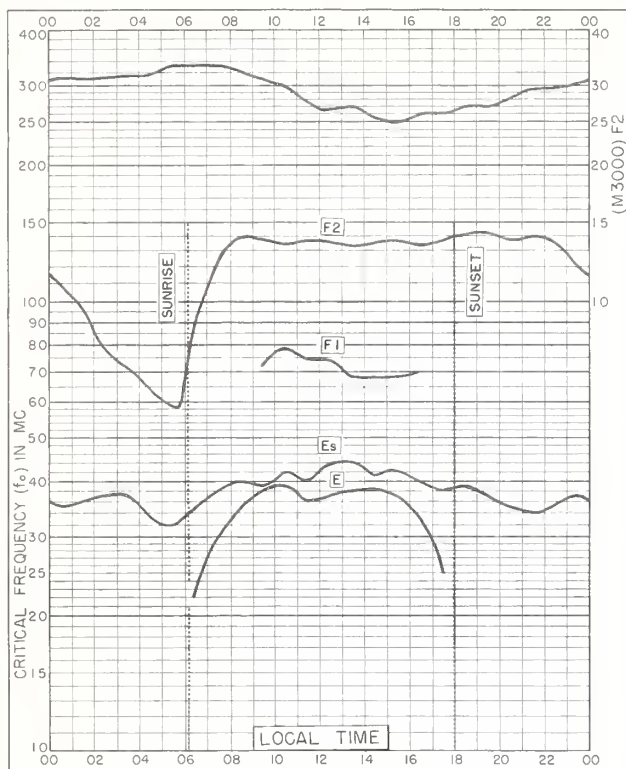


Fig. 117. HOLLANDIA, NETHERLANDS NEW GUINEA
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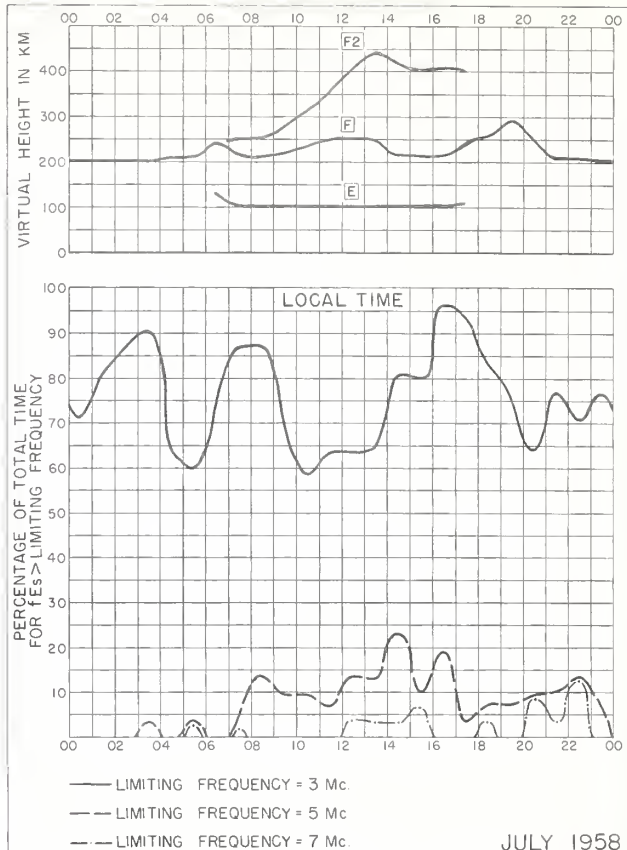


Fig. 118. HOLLANDIA, NETHERLANDS NEW GUINEA
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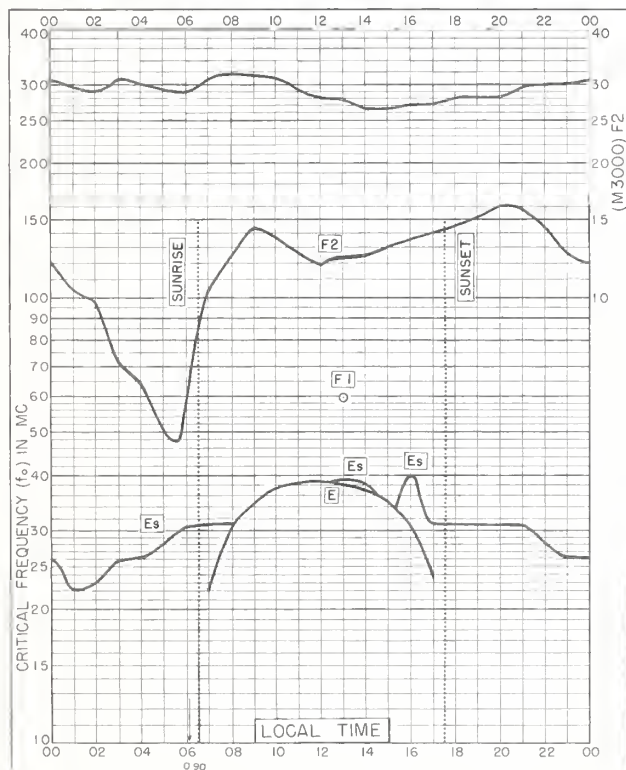


Fig. 119. TAHITI, SOCIETY IS.
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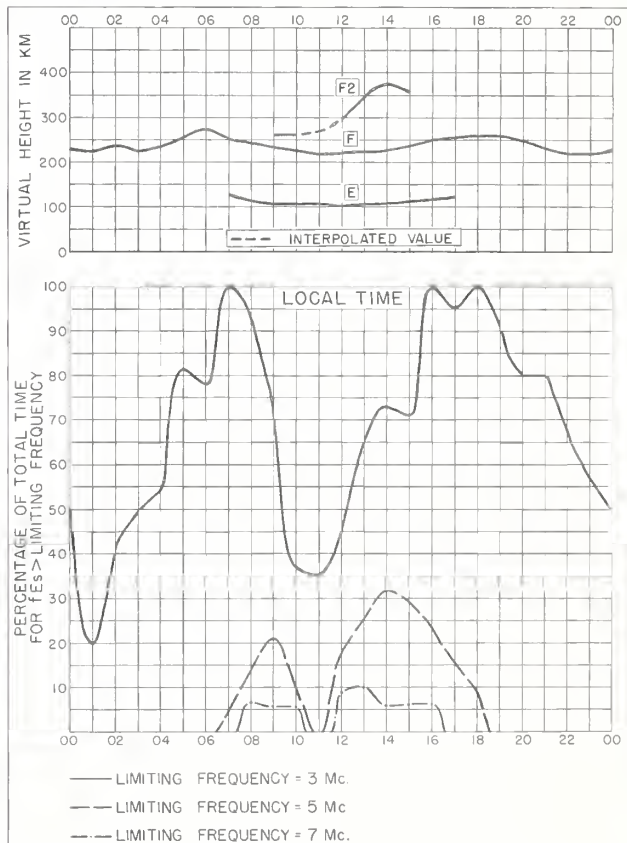


Fig. 120. TAHITI, SOCIETY IS.
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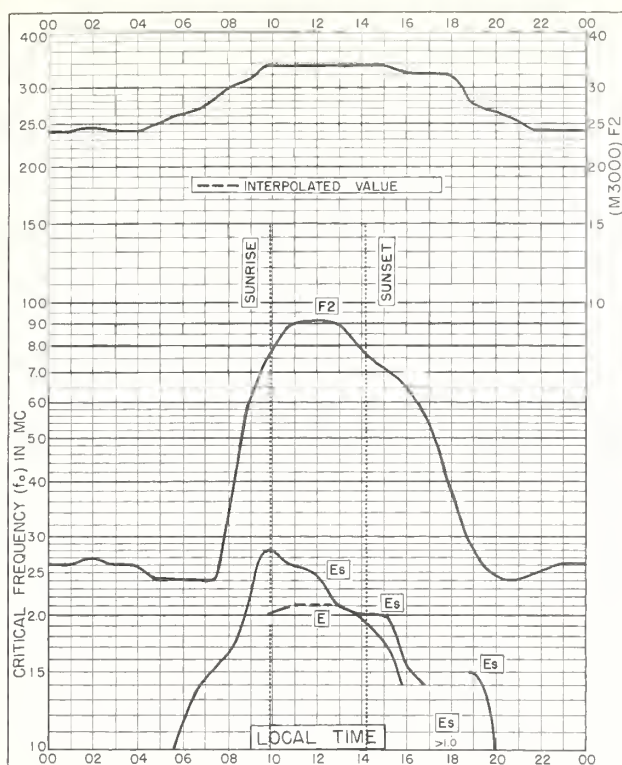


Fig. 121. PORT LOCKROY
64.8°S, 63.5°W

JULY 1958

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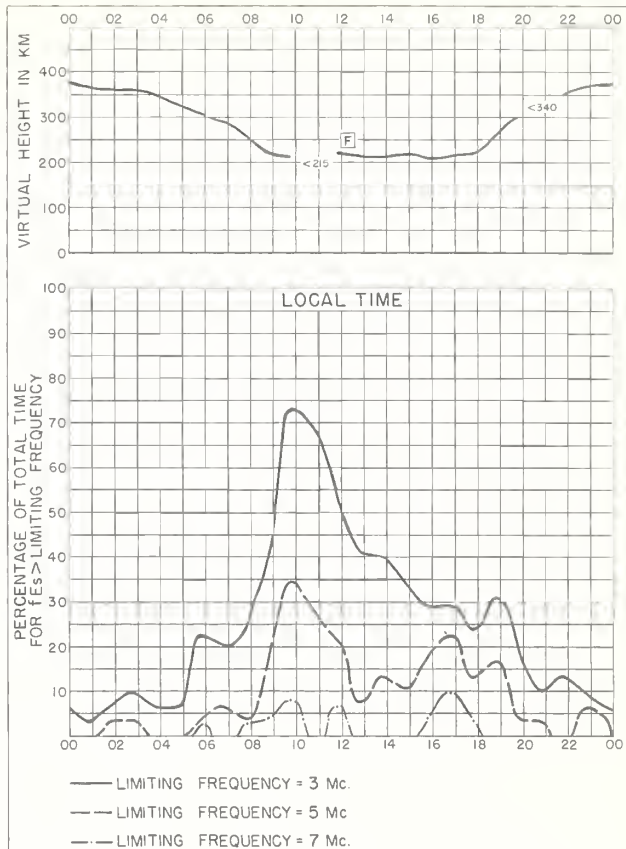


Fig. 122. PORT LOCKROY

JULY 1958

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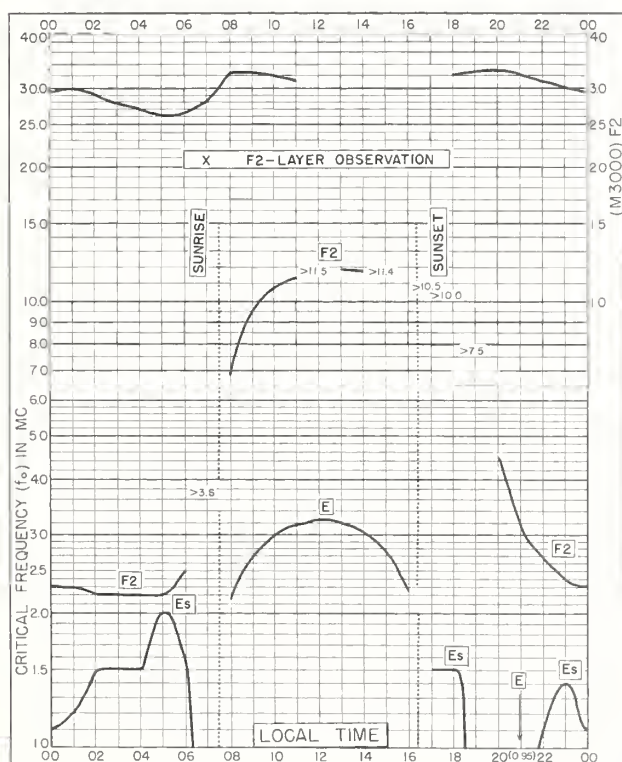


Fig. 123. KERGUELEN I.
49.4°S, 70.3°E

MAY 1957

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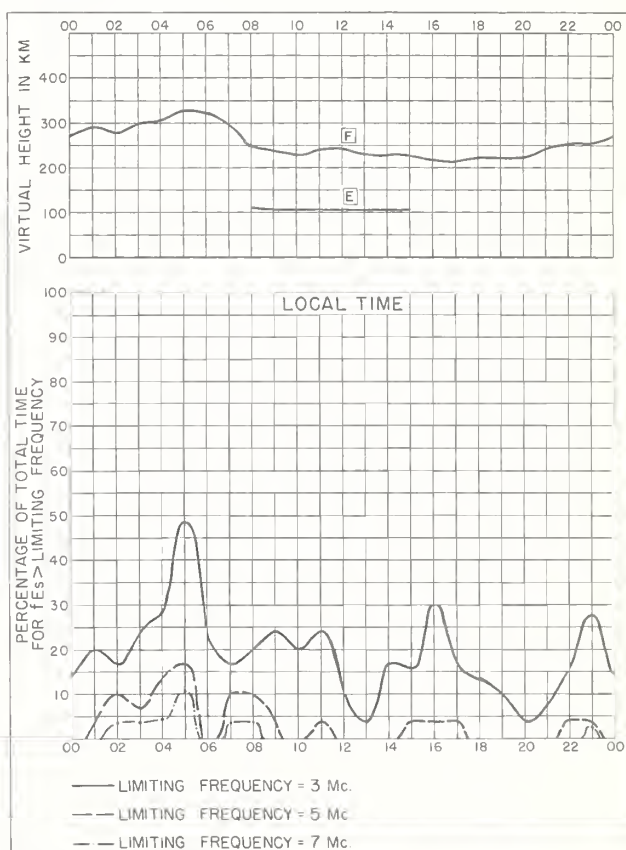


Fig. 124. KERGUELEN I.

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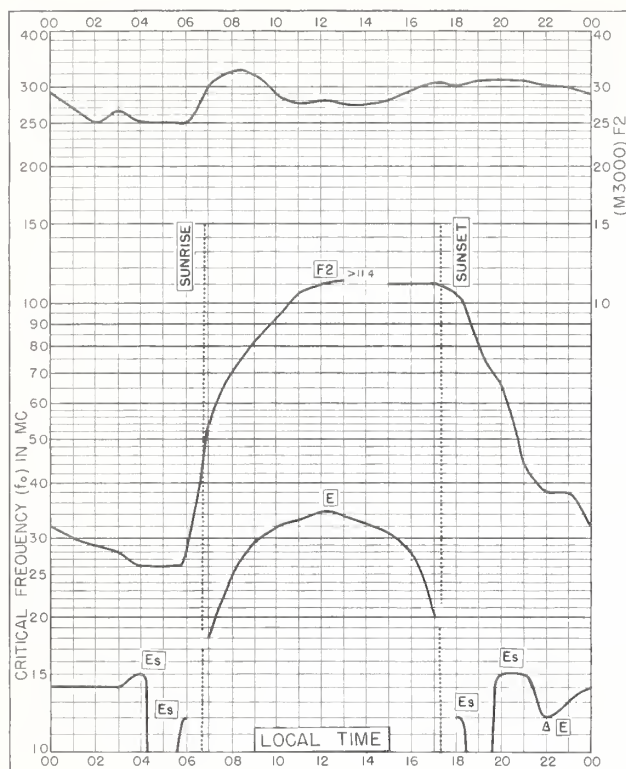


Fig. 125. KERGUELEN I.
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APRIL 1957

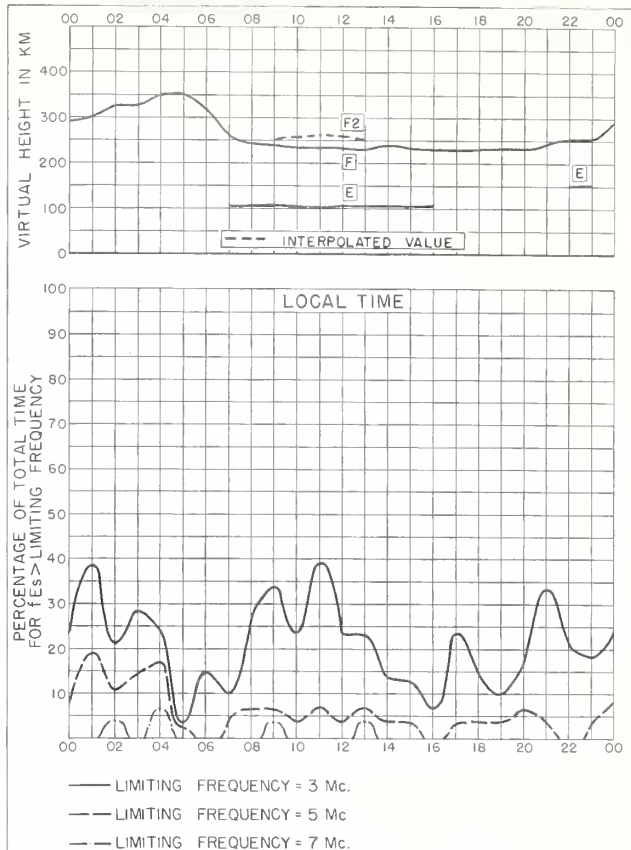


Fig. 126. KERGUELEN I.

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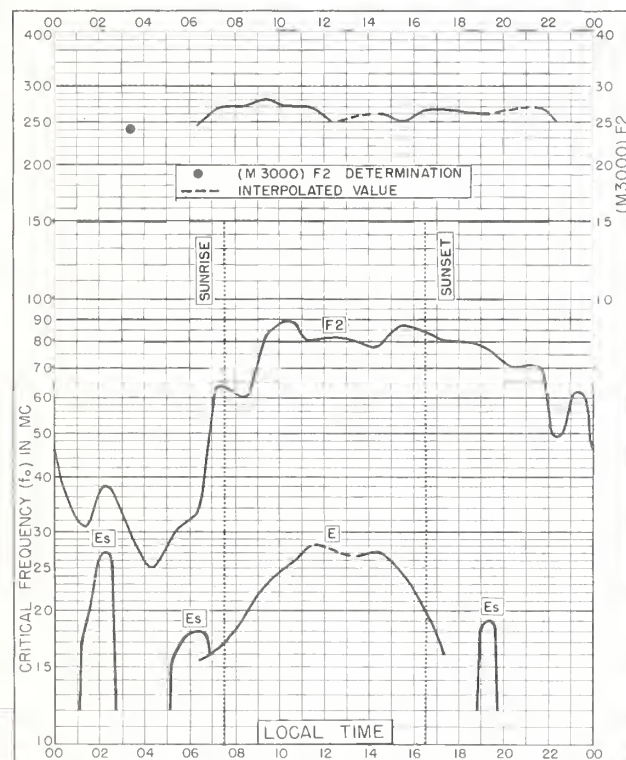


Fig. 127. TERRE ADELIE
66.7°S, 140.0°E

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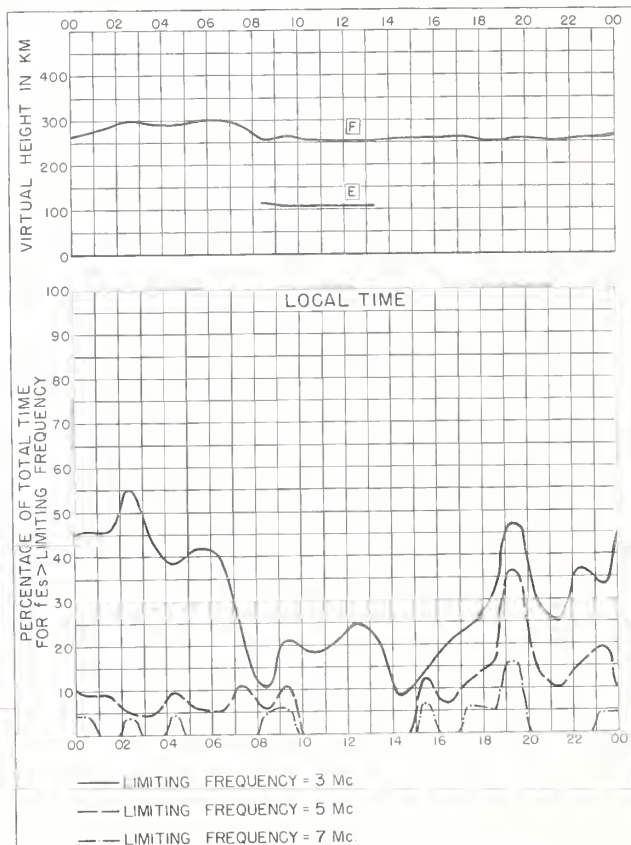


Fig. 128. TERRE ADELIE

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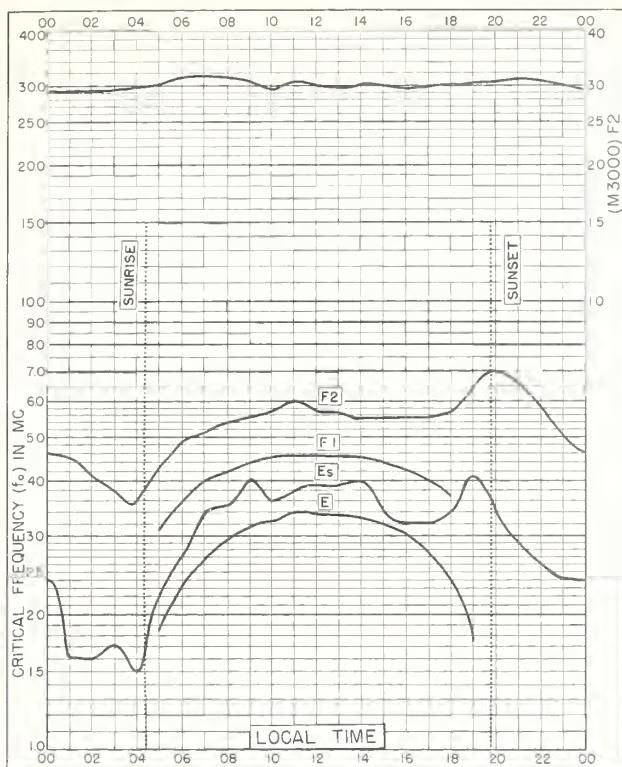


Fig. 129. FREIBURG, GERMANY
48.1°N, 7.8°E

JULY 1955

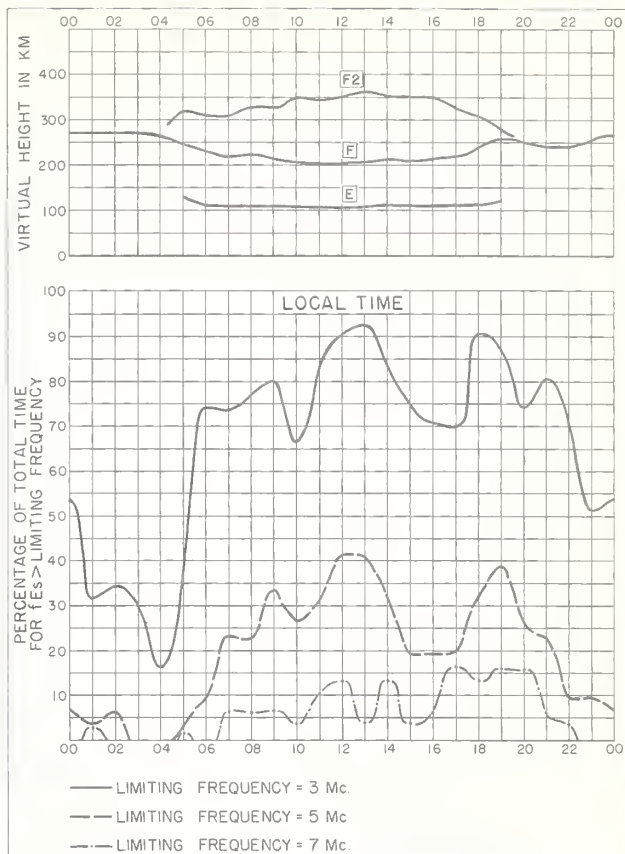


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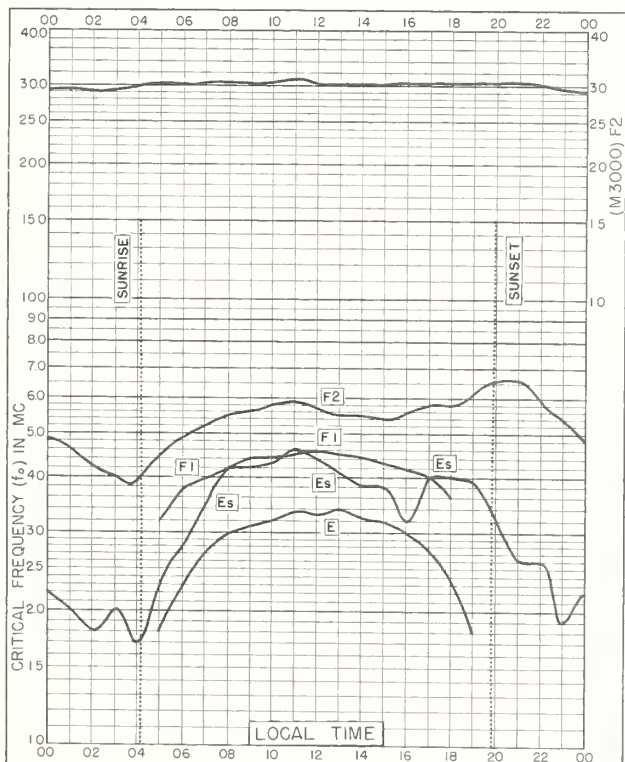


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JUNE 1955

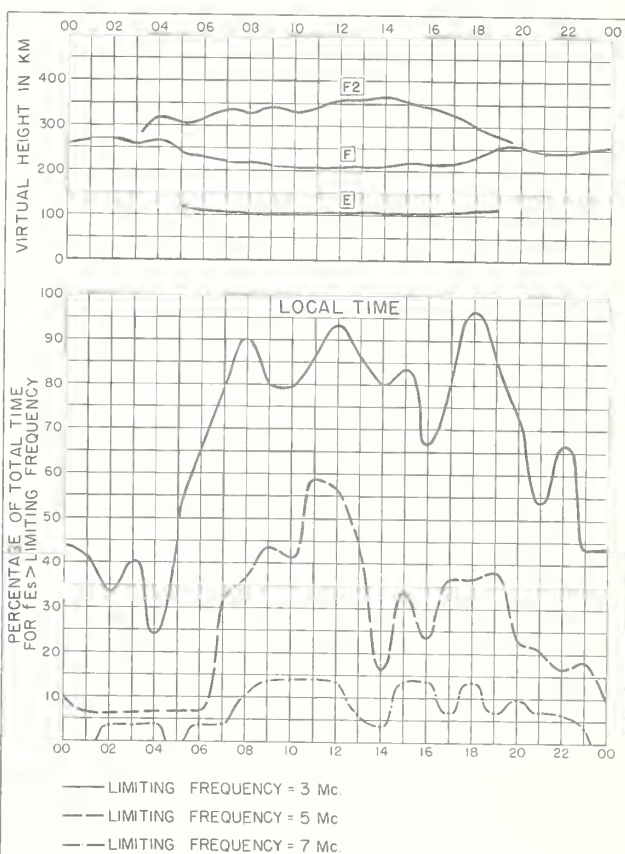
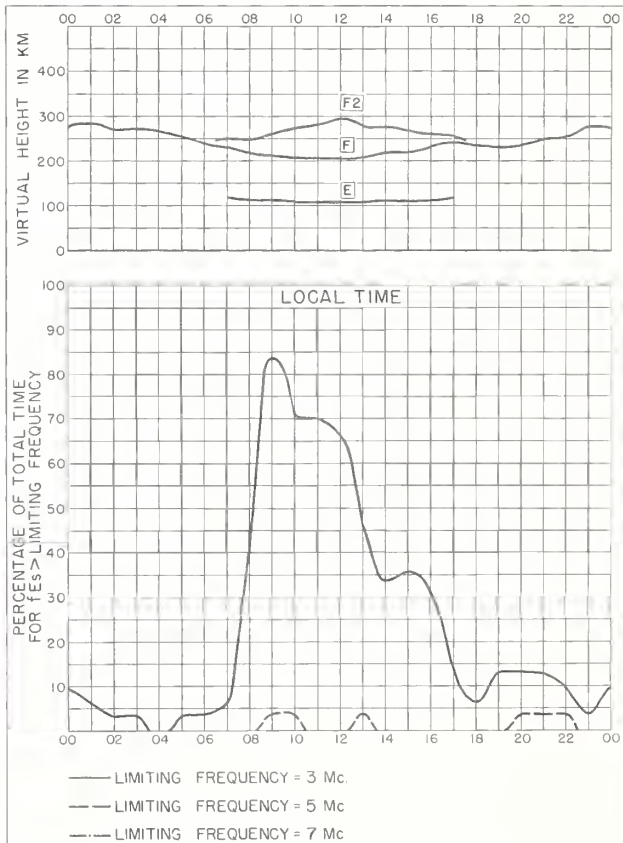
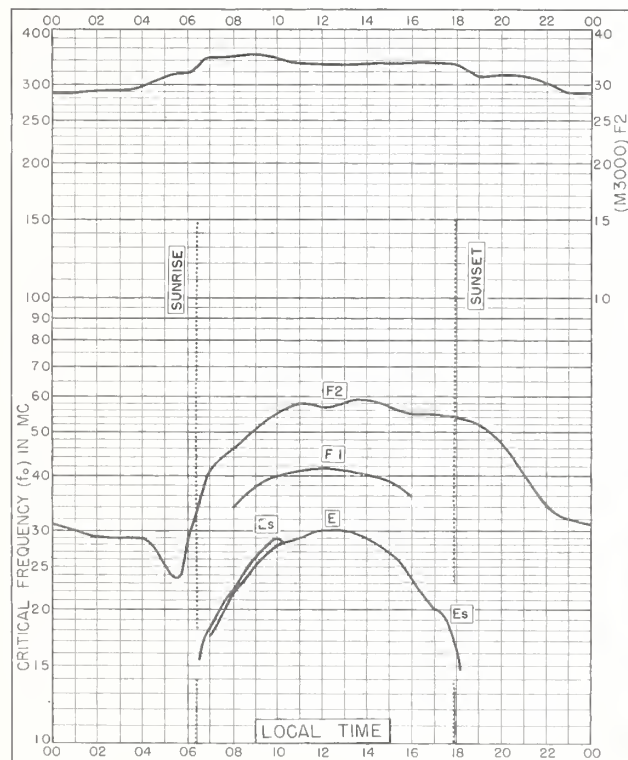
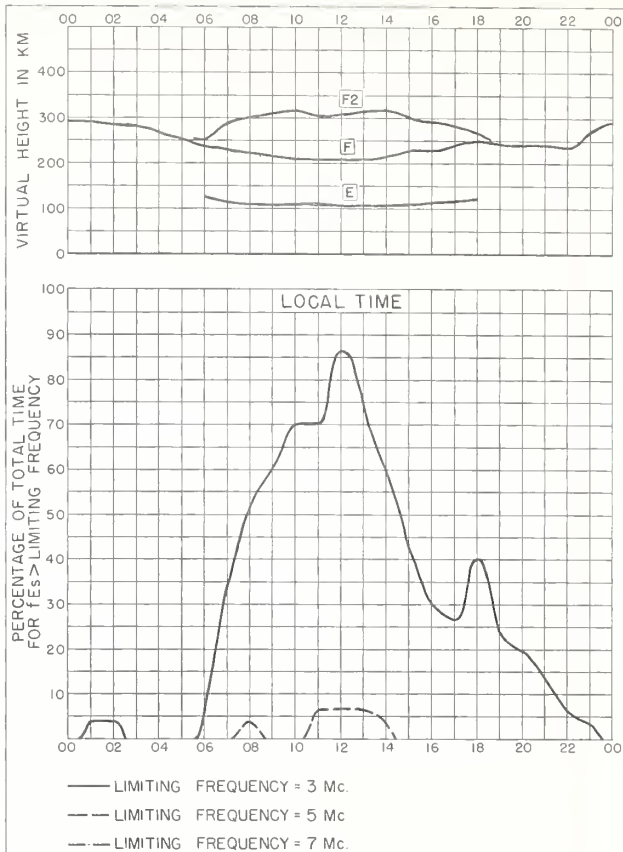
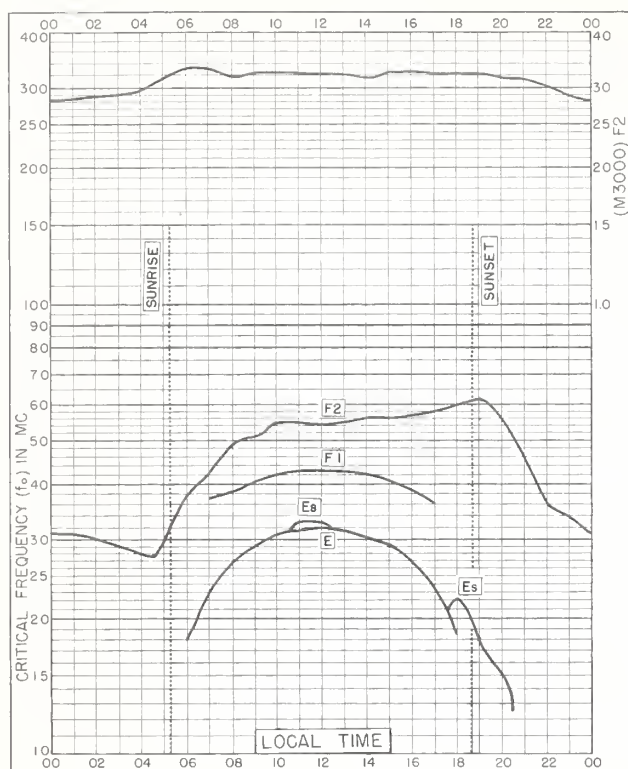


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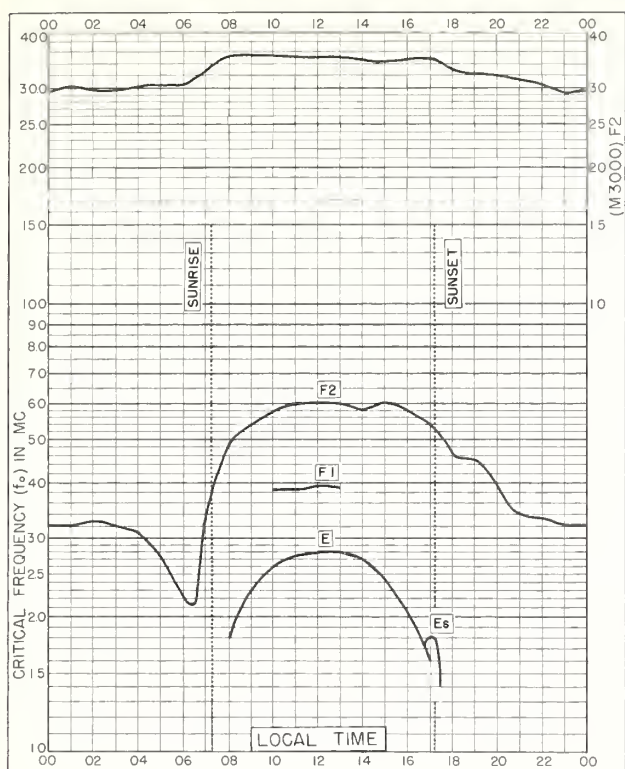


Fig. 137. FREIBURG, GERMANY
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FEBRUARY 1955

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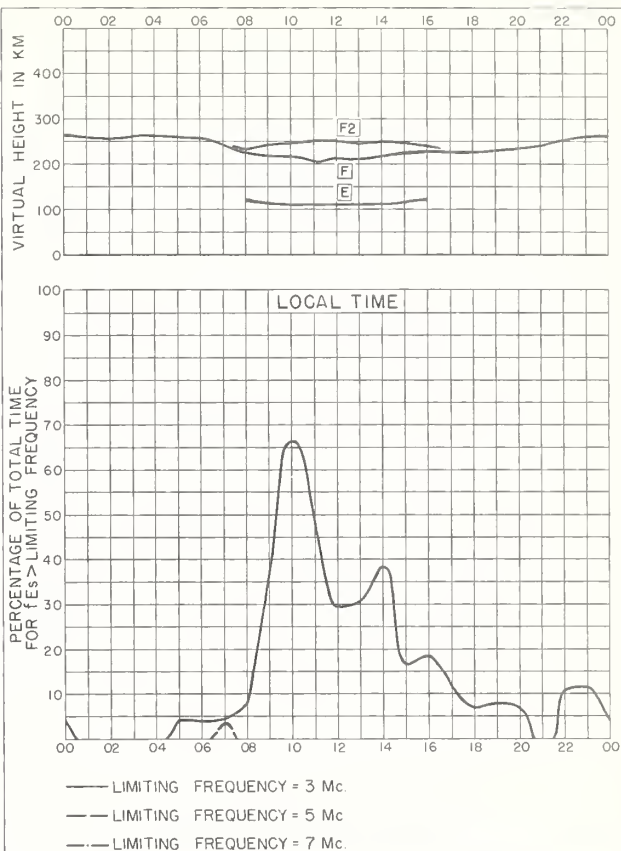


Fig. 138. FREIBURG, GERMANY

FEBRUARY 1955

NBS 490

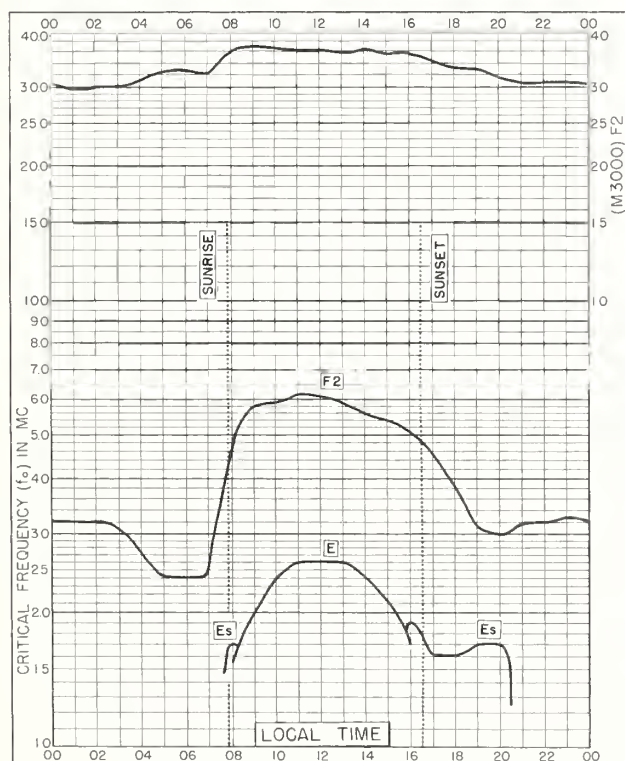


Fig. 139. FREIBURG, GERMANY
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JANUARY 1955

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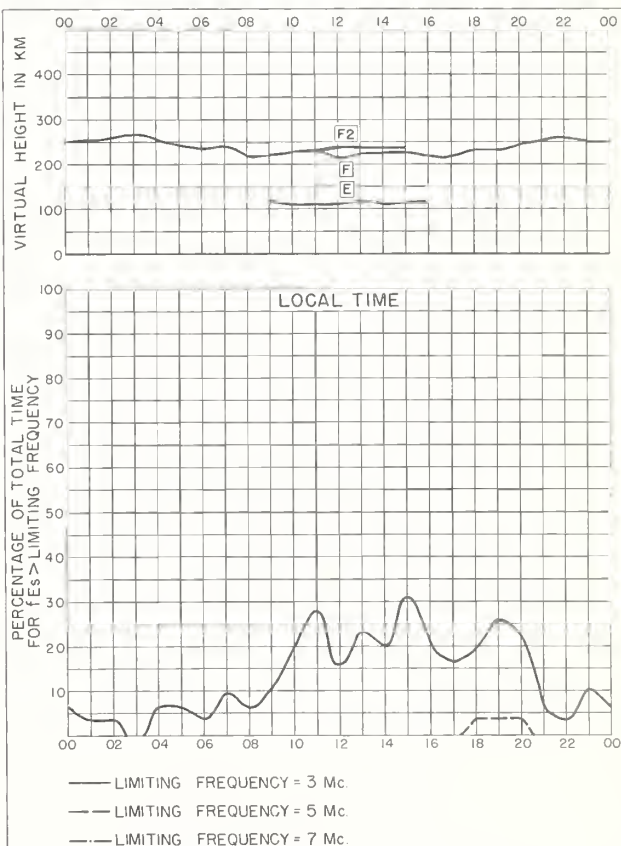


Fig. 140. FREIBURG, GERMANY

JANUARY 1955

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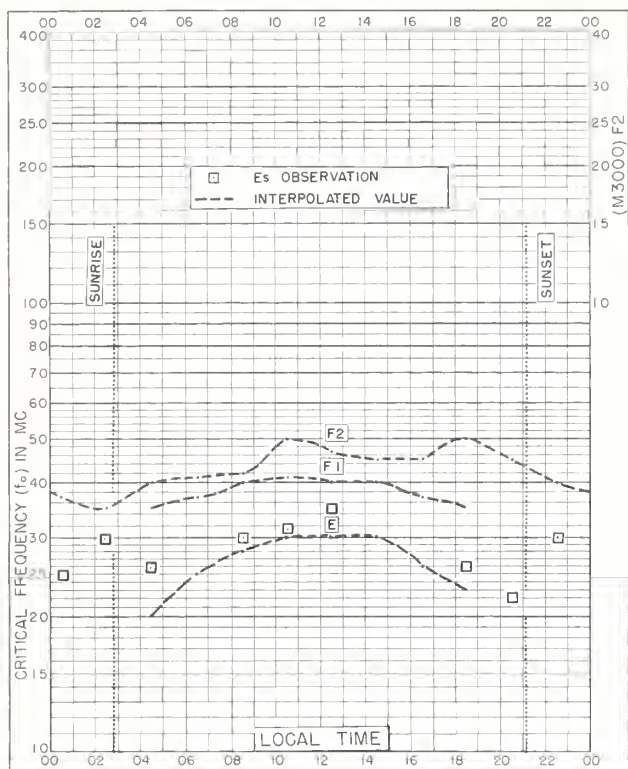


Fig. 141. LULEA, SWEDEN
65.6°N, 22.1°E

MAY 1953

NBS 503

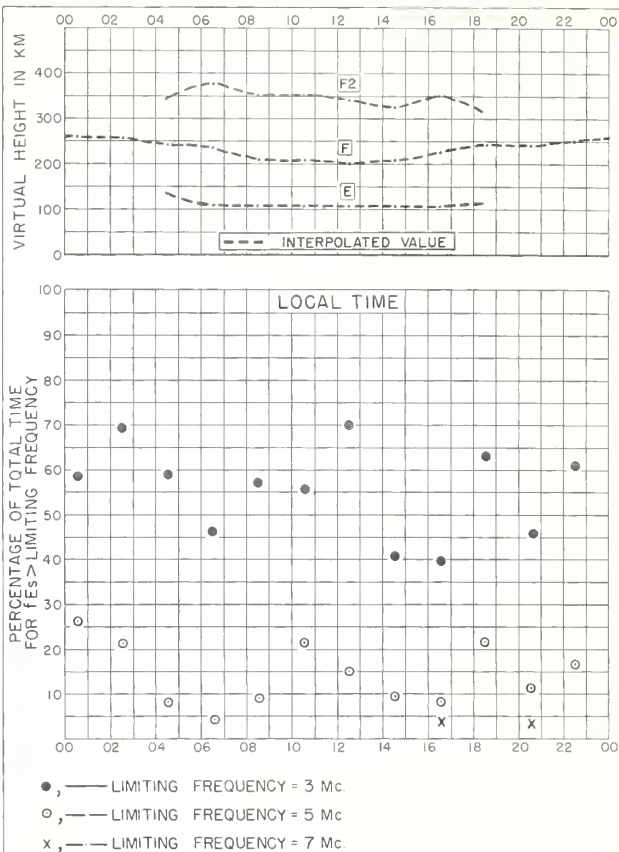


Fig. 142. LULEA, SWEDEN

MAY 1953

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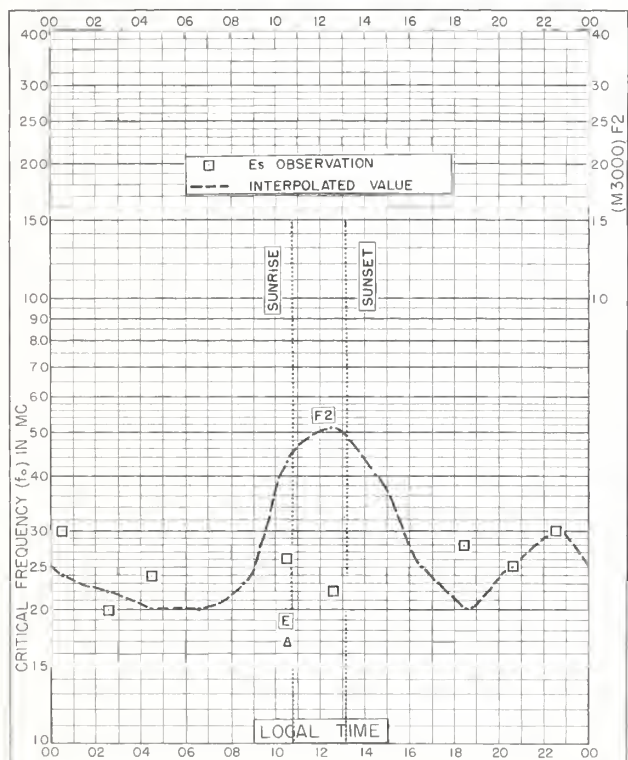


Fig. 143. LULEA, SWEDEN
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DECEMBER 1952

NBS 503

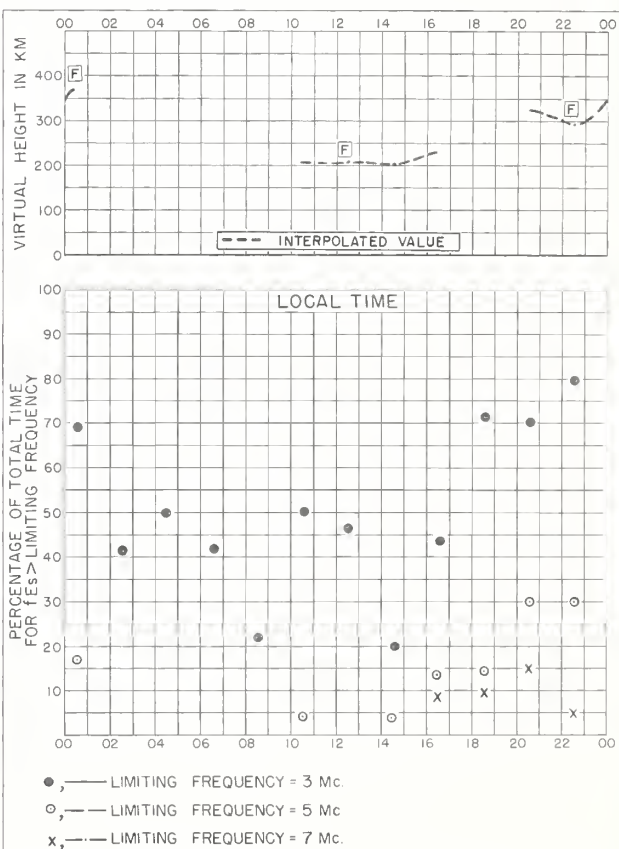


Fig. 144. LULEA, SWEDEN

DECEMBER 1952

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August 1960	3	20
Svalbard, Norway		
August 1959	6	30
February 1959	9	38
Tahiti, Society Is.		
July 1958	10	42
Tamanrasset, French W. Africa		
July 1958	10	40
Terre Adelie		
April 1957	11	44
Tokyo, Japan		
August 1960	4	22
July 1960	6	28
Townsville, Australia		
August 1960	5	25
Upsala, Sweden		
August 1960	2	16
Wakkanai, Japan		
August 1960	3	21
July 1960	5	27
Wilkes Station		
August 1959	8	34
Winnipeg, Canada		
August 1960	2	18
August 1959	7	31
Yamagawa, Japan		
August 1960	4	23
July 1960	6	28

CRPL Reports

[A detailed list of CRPL publications is available from the Central Radio Propagation Laboratory upon request]

Daily:

Radio disturbance forecasts, every half hour from broadcast stations WWV and WWVH of the National Bureau of Standards.

Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

Weekly:

CRPL—J. North Atlantic Radio Propagation Forecast.

CRPL—Jp. North Pacific Radio Propagation Forecast.

Semimonthly:

CRPL—Ja. Semimonthly Frequency Revision Factors For CRPL Basic Radio Propagation Prediction Reports.

Monthly:

CRPL—D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11—499—, monthly supplements to TM 11—499; Dept. of the Air Force, TO 31—3—28 series). On sale by Superintendent of Documents. Members of the Armed Forces should address cognizant military office.

CRPL—F. (Part A). Ionospheric Data.

(Part B). Solar-Geophysical Data.

Limited distribution. These publications are in general disseminated only to those individuals or scientific organizations which collaborate in the exchange of ionospheric, solar, geomagnetic, or other radio propagation data.

Catalog of Data:

A catalog of records and data on file at the U. S. IGY World Data Center A for Airglow and Ionosphere, Boulder Laboratories, National Bureau of Standards, which includes a fee schedule to cover the cost of supplying copies, is available upon request.

The publications listed above may be obtained without charge from the Central Radio Propagation Laboratory, National Bureau of Standards, Boulder Laboratories, Boulder, Colorado, unless otherwise indicated. Please note that the F series is not generally available.

Circulars of the National Bureau of Standards pertaining to Radio Sky Wave Transmission:

NBS Circular 462. Ionospheric Radio Propagation. \$1.25.

NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions. 30 cents.

NBS Circular 557. Worldwide Radio Noise Levels Expected in the Frequency Band 10 Kilocycles to 100 Megacycles. 30 cents.

NBS Circular 582. Worldwide Occurrence of Sporadic E. \$3.25.

These Circulars are on sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Members of the Armed Forces should address the respective military office having cognizance of radio wave propagation.

Selected Technical Notes of the National Bureau of Standards:

NBS Tech. Note 2. PB151361. World Maps of F2 Critical Frequencies and Maximum Usable Frequency Factors. \$3.50.

NBS Tech. Note 13. PB151372. Technical Considerations Leading to an Optimum Allocation of Radio Frequencies in the Band 25 to 60 Mc. \$2.50.

NBS Tech. Note 18. PB151377. Radio Noise Data for the IGY. \$2.50.

18-2. PB151377-2. Quarterly Radio Noise Data (Mar.-May 1959). \$1.00.

18-3. PB151377-3. (June-Aug. 1959). \$1.00.

18-4. PB151377-4. (Sept.-Nov. 1959). \$1.50.

NBS Tech. Note 31. PB151390. An Atlas of Oblique-Incidence Ionograms. \$2.25.

NBS Tech. Note 40-1. PB151399-1. Mean Electron Density Variations of the Quiet Ionosphere, 1: March 1959. \$1.25.

40-2. PB151399-2. 2: April 1959. \$1.25.

These Technical Notes are on sale by the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C. Order by PB number.

